

80524



Class . 10





Digitized by the Internet Archive
in 2013

THE
AMERICAN
PRACTITIONER AND NEWS

A MONTHLY JOURNAL OF
MEDICINE AND SURGERY

EDITED BY

LEE KAHN, M. D.,
LOUISVILLE, KY.

VOLUME XLIV.

JANUARY TO DECEMBER 1910

"NEC TENUI PENNA."

LOUISVILLE,
AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.
1910

THE American Practitioner and News.

"SEC TENUI PENSA."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." -RUSKIN.

VOLUME XLIV.

JANUARY, 1910.

NUMBER 1.

Editorial.

The law pending before the Legislature in regard to building a State Sanatorium for the consumptive, is a very important one. The sanatorium would be an important agent in educating the consumptive. Between the optimism of the few and the pessimism of the many, there is usually a place for the hopeful worker. Pulmonary tuberculosis is now known to be not only a preventable disease, but one capable in many subjects, provided suitable conditions be available, of undergoing such arrest as to be considered for practical purposes, curable. But for the great bulk of consumptive sufferers adequate treatment is attainable, and as far as we can see, it will be long before anything like a sufficient number of suitably equipped sanatoria, where rational hygienic treatment can be systematically carried out, will be available for poor cases in this country.

It becomes, therefore, a matter for the most serious consideration whether a more sharply defined, vigorously conducted educational policy might not best meet the urgent necessities of the present situation. After a thorough study of the subject in all its aspects, we are strongly of opinion that sufficient consideration is not being given to the all-important matter of teaching the consumptive how best to help himself, and in so doing to assist the State in a successful combat with what is indeed the white man's burden.

The task of instructing the consumptive is one of much difficulty. Satisfactory results can only be attained by patient, persistent individual effort. Many of those sufferers who have benefitted from residence in a sanatorium become veritable missionaries of hygiene and ardent advocates of the doctrine of a salvation through open air. It is probable that much more might be done in many sanatoria in securing for the patients a simple but complete understanding of the principles on which the hygienic conduct of their future life depends.

Original Communications.

SOME FACTS ABOUT CANCER.

BY DR. M. L. RAVITCH, LOUISVILLE, KY.

Notwithstanding the voluminous literature written about cancer, notwithstanding the many cancer researches in the last decade, even the single question—whether cancer is on the increase, has not yet been fully established. Though statistics show cancer to be on the increase, yet the explanation of this increase is very difficult. It seems that the cause of the increase of cancer, like the cause of cancer itself, is yet undiscovered.

From the cancer researches in this country and abroad, the following facts have been ascertained: Cancer has been discovered to pervade at least all classes of the vertebrate kingdom, to present constant characteristic features in all animals, and to fall into the same groups for classification purposes. Throughout all races of men and animals it exhibits the same predilection for certain age periods proportionate to the varying durations of the span of life in all the nearly allied and widely removed species of animals in which it occurs and in all animals alive cancer is without any characteristic symptoms. An important distinction has been established between the infectious diseases and cancer. On infectious disease, such as tuberculosis, which is common to man and certain animals, presents a general similarity in the disease itself and in the symptoms produced by the same infective agent, although both show variations from species to species. Cancer, on the other hand, while showing the same essential features in all animals, from mankind to fish, and a total absence of characteristic symptoms throughout is not transmissible from one species to another species. The transmissibility of cancer is of limited and peculiar nature, and merely implies that the cancer cell may continue to grow if transferred to

another host of the same species. The new host, however, does not become infected with cancer, but merely provides a soil in which the transplanted cell may grow. These peculiarities prove what had long been suspected, namely, that the cancer cell itself is endowed with powers of growth which are unique. Phenomena have been observed which appear to show that the cancer cell can re-acquire the power of self-propagation. If future work should confirm the last observation, the problem of the continued growth of cancer cells will have been solved. The hypothesis that cancer is an infectious disease may be said to have been invalidated by the import of some of the foregoing observations. The identity in the appearance of cancer in all animals, the absence of characteristic symptoms, and the impossibility of transferring it from one species to another, demonstrate that the same infective agent cannot be the cause of cancer in man and in animals. The fact that in the successful transmission of cancer it is the cancer cell itself which grows, and that it can only grow in animals of its own species, excludes altogether a parasitic causation. The comparative study of the disease in all its features and in all animals have done much towards establishing a common biological law in relation to it. It seems justifiable to conclude that its cause must be sought in those properties of cells which are the only characters common to all the animals in which cancer occurs. The nature of transmissibility affords experimental proof of the truth of the conclusion, and observations of the minute cell structure have brought to light facts which may ultimately afford an adequate explanation of the mechanism by which the power of independent proliferation is acquired and maintained by the cells of a cancer.

Investigations are in progress with regard to the possibility of a rational serum diagnosis and a serum treatment. The powers of X-ray and of Radium as a curative agent have been tried, but have yielded no promise of general utility. At the present the laity and the profession should be warned not to delay surgical interference in the hope that some means will be discovered by which it may be replaced or rendered unnecessary.

SUPERHEATED AIR AS A THERAPEUTIC MEASURE.

BY IRWIN LINDENBERGER, M.D.

Heat as a therapeutic measure has been used from time immemorial for various affections and in various ways; poultices, hot-water bags, steam baths, and hot water being the commonest modes of application. My experience with superheated air now extends over a period of about ten years and the affections treated have been varied in their nature.

My first apparatus was one made by Betz, being heated by gas at one end, the heat being conveyed by a sheet iron pipe to the interior; direct contact with the patient being avoided by a shield running the entire length of the oven. The part affected rests on a hammock of course material. A vent-hole in the top controls, to a large extent, the heated air contained therein, which is also regulated by a thermometer. The use of gas is not entirely free from danger, especially when a high degree of heat is desired, and I have had the toweling to scorch when using this apparatus and, at one time, to smoulder. However, odor and smoke from the vent gives warning enough concerning this danger.

The apparatus I have employed in the past six years is one made by Lentz, of Philadelphia, and is heated by electricity. It consists of a copper cylinder lined with asbestos. The part to be treated lies on a very thick piece of magnesia. The required temperature can be obtained in ten to fifteen minutes. The ventilators in the top prevent the accumulation of moist air which, if present in too great quantity, subjects the patient to the risk of being burned. To obviate the moisture causing a burn to the affected part, it is completely but loosely wrapped in Turkish toweling. During the first ten or twenty minutes' application of the heat, it many times becomes necessary to wipe the part thoroughly dry to prevent a superficial burn. At the first sitting, heat of 300 degrees F. seems to be, in the majority of cases, all that can be borne. This is about the average temperature, however, used in later applications, the duration being from thirty

to sixty minutes, and treatments mostly daily or every other day.

My principal cases include acute muscular, acute and chronic articular, and gonorrheal rheumatism; sprains, traumatic arthritis, synovitis, and fibrous ankylosis. My most favorable cases have been acute sprains of the knee, ankle, wrist and elbow, shortly after injury, but good results have been obtained even after a considerable time has elapsed. Joints that have become more or less firmly ankylosed, as a result of acute inflammatory and traumatic synovitis, or from disease following an injury, appear to soften under the high temperature of heat like old glue when heated. After such a joint has been treated, within one or two hours there is a recurrence of former stiffness, but with the co-operation of the patient and the re-establishment of the muscular co-ordination, freedom of the joint will increase. Many exaggerated statements have been made as to cures by this method, and it is not to be expected that a normal joint can always be reproduced, but four to seven degrees of motion is a decided gain over an absolutely stiff joint.

Regarding the physiological effect of the local application of hot air on general metabolism, the conclusions reached from study at the Pepper Laboratory of Clinical Medicine, No. 11, are:

First—Temporarily increased circulation.

Second—Moderate, fugacious, local anesthesia.

Third—Loss of weight, probably due to loss of water from the skin and lungs.

Fourth—Decreased nitrogenous output.

Fifth—The effects of hot air are purely local in origin.

My greatest disappointments have been in cases of both acute and chronic gout, rheumatism and rheumatoid arthritis. In stiff joints, especially those of the fingers due to uratic deposits, the air had no effect whatever. One failure was in a case of ankylosis of the knee due to rheumatism, in which the heat was used previously and the adhesions then broken up under general anesthesia. The patient could not stand manipulation afterwards, even with subsequent bakings, and the joint did not be-

come mobile on account of the pain evolved on motion, and became fixed.

Knowing, then, the physiological action of heat, theoretically, what conclusions can be drawn as to the benefit to be derived in these joint affections? For convenience of description they may be divided into (1) those of rheumatic origin; (2) those of tubercular origin, and (3) those of traumatic origin.

The morbid anatomy of the sub-acute or chronic rheumatic joints may be briefly described as follows:

The synovial membranes, the ligaments, the cartilages, and the peri-articular structures are all, or only in part, involved, according to the gravity or chronicity of the particular case. The synovial membrane is usually thickened and slightly injected. Little fluid exists in the joints except during an exacerbation; the fibrous capsule and ligaments become thickened, dense and stiffened by hyperplasia, and sometimes the adjacent tendons and their sheaths; the fascia and aponeuroses undergo similar alteration, so that the movements of the joint become seriously interfered with. The cartilages are often rough and occasionally present erosions, which are either naked or covered with a layer of newly-formed connective tissue. This may occasionally produce fibrous adhesions between the articular surfaces.

In the tubercular joint, the peri-articular structures, ligaments and synovial membrane may all be attacked by this morbid process. If the synovial membrane is involved it becomes covered with the infected granulation tissue which may extend to the capsule or surrounding structures. The parts become oedematous and gelatinous, and the joint cavity itself contains either little or no fluid, or may be distended with a profuse serous effusion. The tissues of the joints are usually highly vascular.

In the traumatic joint we find, in the chronic form, the articular structures thickened with a plastic exudate, and afterwards with the newly-formed fibrous tissue. Adhesions, the result of blood clots or exudation, form and bind together the folds of synovial membrane or articular surfaces. There may be a large effusion in the

joint, or the effused fluid may have been entirely absorbed.

Now, when a joint is subjected to a temperature of 300 degrees F. for an hour, and taken from the apparatus, one can plainly see a diffuse hyperemia of the skin, indicative of a dilatation of the capillaries and arterioles therein. The patient will probably inform you that the part feels numb, a phenomenon which is no doubt due to the action of the heat on the superficial sensory nerve filaments. The body temperature will be from $1\frac{1}{2}$ to 1 degree above normal, and the increase in the pulse-rate 10 to 20 beats per minute, which of itself suggests an increased blood supply to the affected part. The patient will also inform you (unless the joint be ankylosed) that there is less pain and more freedom of movement, the former fact being no doubt due to the anesthetic effect of the heat on the nerve supply of the articular structures.

In this connection, regarding the alleviation of pain other than the local anesthetic effect of the heat, another explanation might be that the exudate around and possibly in the sheaths of the nerves themselves, is responsible by its pressure for the pain, and when this exudate is in part or all removed, the pain is correspondingly diminished.

Such, then, are the clinical and physiological phenomena of hot air on the pathological lesions that we may attempt to deal with. In diathetic conditions, rheumatic or tubercular, we cannot look forward to any beneficial constitutional effect, but solely to the purely local influence. When we have tissues swollen and infiltrated with plastic exudate, as in rheumatic and traumatic joints, and we increase the lumen of the vessels, both veins and arteries, increase the blood pressure and the frequency of the pulse; do everything, in fact to increase the blood supply, it is natural to suppose that this method would be instrumental in carrying off that exudate and allowing the part to return to its normal state. However, this newly-formed connective tissue contracts, presses on the blood vessels, and diminishes the blood of the tissues involved. In these structures so altered, a very much im-

proved circulation might produce a temporary oedema, which would, to carry the idea still farther, permit of a certain amount of mechanical stretching, and thus explain the improvement in motion that has been shown to follow.

The action of Thiosinamine, introduced by Von Hebra as a therapeutic measure in Vienna, in 1892, is quite similar as regards producing softening and oedema of cicatricial tissue. However, the effects of this drug are only temporary and mechanical means have to be employed in conjunction with it. As the drug acts only on scar tissue it has some drawbacks in the fact that healed tubercular processes might be softened and lighted up. I have not used this drug in connection with hot air, but in any very intractable cases I propose to do so.

I have observed, in many of these patients, that they have a return of the pain within one or more hours after removal from the oven. I think this is due to the anesthetic effect waning, and to partial contraction of the tissues from the temporarily produced oedema, due to the increased blood supply.

In conclusion I would say, that I would recommend this method of treatment in the *sequelae* of any joint injury, traumatic, rheumatic, tubercular or infective, especially to be employed in the order named; and, in using it, employed as an adjuvant, judicious massage, passive motion and other known measures, and satisfactory results in very many cases will be achieved.

TREATMENT OF CHRONIC MIDDLE-EAR SUPPURATION.

BY HARRIS KELLY, M.D.

Before entering into a discussion concerning the treatment of this condition, it is well for us to consider the causes which lead up to purulent inflammation of the tympanum and the accessory aural cavities. The catarrhal type of middle-ear disease is, as a general rule, caused by infection from the retro-nasal space and pharyngeal walls which extend, by means of the Eustach-

ian tube, to the mucous membrane of the middle ear. It is an axiom among Otologists that pus formation in the middle ear has as its antecedent a catarrhal process, parallel in character to this form of infection in all the mucous cavities of the human economy. Pus formation, then, is a natural sequence where we have invasion by specific, pyogenic micro-organisms, and it is in this latter stage of chronic suppurative condition that the average practitioner finds his patient. The ear drum, as a rule, is ruptured and various changes have taken place in the cavity, varying from a minute fistulous opening in the tympanic membrane to a complete destruction of this body with coincident necrosis and erosion of the ossicles. So, it is easy to see that the treatment of this disease; in fact, directly as to the multiple changes which may take place in the middle ear proper.

It is not within our province to discuss the various radical surgical operations which are now adopted by the ear surgeon for the purpose of eliminating this condition by means of the knife. We shall only discuss such treatment as may be of value of the general practitioner.

In general terms, the treatment aims to arrest secretion of pus, to reduce middle-ear edema, and to restore the normal condition of the tympanic mucous membrane. Politzerization should always be used as an excellent accessory to all medical treatment. This tends to remove the collection of pus and to aid in middle-ear drainage, which is of great value in treating suppurative conditions of this character. The antiseptic treatment is generally concluded to be the ideal measure in handling these cases, and the point to remember is that, in the application of liquid antiseptics, the fluid must not be injected into the tympanum with too great force. It is advisable that the application be made, when liquid, by means of an appropriate nozzle and a fountain syringe, scarcely a foot higher than the ear of the patient. This insures moderate pressure and the avoidance of injury to the internal ear. If the syringe be employed, it should be done with the greatest possible care and gentleness.

Among the drugs used, hydrogen peroxide, 5 per cent, is greatly employed by European otologists. It has well

marked antiseptic properties and the ozonizing influence is of great value in sterilizing the tympanum and in arresting the suppurative process.

Permanganate of potash solution, one to ten thousand, usually applied by means of a fountain syringe, is very popular at the present time. It is an excellent antiseptic, apparently painless in action, and is followed by no secondary ill effects. It is a drug with which I have had considerable personal experience, and I regard its results as most gratifying.

Bichloride of mercury, one to one thousand, is also valuable, although the reaction from this drug is sometimes unpleasantly severe. Besides these, the following have been employed as powders by direct insufflation: Iodoform, iodol and boracic acid.

Solutions of resorcin, ichthyol, and trichloride of iodine are used by direct application. They are of especial value where a syphilitic or tubercular process is engrafted on the original condition.

In the granular form of this disease, alcohol is a most excellent remedy. It should first be applied diluted with water and the strength of the alcohol gradually increased as the patient becomes more tolerant to the action of the solution. The fluid should first be warmed to body heat, and then poured into the ear where it should remain for at least ten minutes after its instillation. Under this treatment the mucous membrane becomes gray, the albuminous discharge is coagulated, and the results of the treatment have been most excellent in those cases which I have seen. Sometimes boric acid is added to the alcohol in proportion of thirty grains to the ounce.

When the mucous membrane is much swollen, the direct application, by means of cotton, of a one per cent solution of nitrate of silver is sometimes followed by satisfactory changes in the nature of the secretion, which loses its purulent appearance and becomes semi-serous in character. The previous instillation of a few drops of five per cent cocaine will render this process less painful.

Of course, this article is merely to aid the practitioner in his choice of medical treatments. However, when the

patient evinces symptoms of brain, sinns, or labaryth-thiae involvement, he should at once be treated according to surgical principles. The great advantage derived from treatment by the antiseptic method is found in the fact that few of these cases so treated, evidence the more serious brain and sinns symptoms; in fact, a prominent European authority has recently stated that middle ear disease, when intelligently and persistently treated, very rarely shows any serious secondary symptoms. It should be our aim, therefore, to keep these patients under careful observation and see that the middle-ear cavity is kept clean, and that drainage of the secretions is kept up until recovery is complete, and the mucous membrane is restored, as nearly as possible, to its normal healthy condition.

INDUCTION OF ANESTHESIA.

By J. W. HEIM, M.D., LOUISVILLE, KY.

The induction of anesthesia is the most dangerous part of anesthesia, and therefore necessarily the most important part.

So we must choose with very great care our method of inducing anesthesia and also the agent employed.

In choosing the method of inducing anesthesia the anesthetist must decide which method is the safest in his hands, and which is the most pleasant to the patient; also the one that consumes the least time in the induction period.

However, the anesthetist must not endanger his patient either by trying to induce anesthesia too quickly, or by choosing an agent simply because it has a shorter induction period than some other agent that is safer but has a long induction period.

The agent chosen must not only be one with which the anesthetist is familiar, but one that statistics have proven to be the safest, unless something contradicts this agent.

The anesthetist must also consider the pathological findings, if any, in choosing the agent for each and every

case. The time of induction and the pleasantness or unpleasantness of the agent is also important.

If the patient has taken an anesthetic before, the anesthetist must find out as far as possible how he or she did.

Happily for all concerned, the agent that has the shortest induction period and is the most pleasant to the patient and the safest is Nitrous Oxide.

Nitrous oxide with air, or better, nitrous oxide with oxygen, is the safest anesthetic known. Although it is not applicable for all operations, it is applicable for the induction period in all cases except very young children.

If a patient can take an anesthetic at all, they can take nitrous oxide; therefore it can always be used for the induction period.

After examining the patient, if ether has been decided upon as the anesthetic, nitrous oxide will be ideal for inducing anesthesia.

The patient usually goes under it without any excitement stage. A large percentage of them never move—not even swallow. This method tends to lessen post-anesthetic vomiting, as the ether-laden mucus is not swallowed.

The patient is ready for the operating room in four or five minutes.

If chloroform is to be used, nitrous oxide can be given, and after the patient is under the nitrous oxide, a small amount of ether, and then, the chloroform.

In using this method more oxygen should be used than when ether is given, as there should be no cyanosis or jaundice present when the chloroform is administered, but the patient should present a good rosy color.

This method eliminates the most dangerous part of chloroform anesthesia, when the patient is so liable to do badly during the excitement stage, in struggling and holding their breath, and taking a full breath and filling the lungs with chloroform, and carrying the blood laden with chloroform to a heart that is exhausted by the struggling. The advantages of inducing anesthesia with nitrous oxide are: It is safer, shorter, most pleasant to the patient and tends to lessen post-anesthetic vomiting.

The disadvantages are: It is more complicated; the apparatus and cylinders of gas and oxygen are very cumbersome and heavy to carry around, and it is expensive, especially if oxygen is used with the nitrous oxide. I have used this method in over four hundred cases with good results.

I seldom have an excitement stage, and the patients say the anesthetic is pleasant to take, especially for those who have taken an anesthetic before.

Abstract of Some of the Principal Papers Read Before the
American Proctologic Society,
Eleventh Annual Meeting, Atlantic City, N. J., June 7 & 8, 1909.

**"NEVUS OF THE ANAL REGION WITH REPORT
OF A CASE ASSOCIATED WITH INTERNAL
HEMORRHOIDS."**

BY LEWIS H. ADLER, JR., M.D., PHILADELPHIA, PA.

The author of this paper mentioned the rarity of this condition as an anal affection. The patient whose condition was detailed was a male, aged forty, whose habits were good. From birth he had a noticeable fullness at the anus, which as he grew older, occasioned him considerable annoyance when walking and at stool. When twenty years old he had had an operation for hemorrhoids performed, which temporarily gave relief. As time went on his hemorrhoidal trouble returned and the external congenital fullness became worse. Bleeding frequently attended efforts to have an evacuation, though the bowels were never, what might be called costive.

Examination prior to operation, revealed a mass of thickened skin, of a dull purplish hue, surrounding the anus, about two inches in width and elevated from the surrounding skin about 1-16 of an inch. Scattered over this area were numerous hairs. The anus was quite patulous, and, upon bearing down, a hemorrhoidal mass protruded and the external portion, around the anus, visibly increased.

A diagnosis was made of nevus associated with internal hemorrhoids, and an operation was advised to which the patient readily consented. At this time, he was apparently in fair physical condition and by no means markedly anemic, although his color was far from normal, and he lacked what might be termed resistance. His weight at the time was 151 pounds, and his usual weight being stated to have been 170 pounds.

An operation was performed, on March 29th, five days after he was first seen by the writer. The patient took the anesthetic very badly; it requiring over a half hour to get him in a condition to be placed upon the operating table. After the removal of the hemorrhoids, which were as large as any the writer had ever seen—the tissue, composing them, being much thicker and denser than is usually encountered, in ordinary cases—the patient's condition was that of profound collapse. The usual clamp and cautery method was used for the removal of the five hemorrhoidal masses present. After the administration of a hypodermic injection of atropin and strychnine, the patient rallied, and the nevus was then excised. The removal of the latter caused very little loss of blood, so much so, that its absence was remarked upon by several of those who witnessed the operation, and during its removal numerous veins were noticeable upon the under side of the growth, which stood out, in their distended condition and showed a characteristic bluish color.

By the time this step was completed, the patient's condition was bad again, the pulse weak, and the skin moist. The usual dressings were applied; no attempt being made to unite the edges of the wound and the patient was removed to his room where a hypodermoclysis was promptly given to which was added four ounces of whiskey. His condition gradually improved, but within five hours he was dead. The manner in which he died led to the inference that his death was due to a cardiac embolism.

The pathological findings of the specimens removed as made by the pathologist of the hospital—Dr. James A. Kelly, showed that the growth was that of a simple nevus.

"A REVIEW OF PROCTOLOGIC LITERATURE FROM MAY 1908, TO MAY, 1909."

BY SAMUEL T. EARLE, M.D., BALTIMORE, MD.

Among the interesting conditions referred to in the review by the author, were the following: "Congenital Idiopathic Dilatation of the Colon" (Hirschsprung's Disease). In Dr. Finley's report of his case he reviewed the literature of the subject to January first, 1908, and collected some two and six cases, after which he stated that while to Hirschsprung belongs the credit of having first called attention to this disease, a number of cases had been found in the literature antedating his classical description. In the article Dr. Finley discussed the various hypothesis as to the etiology of the disease and some ten theories, which have been suggested from time to time, as the causation of the malady, including that of hypernutrition, which was the author's principal theory. His conclusions as to the etiology of the disease were that no one theory apparently explained every case; that each one explains some.

The symptomatology was described and a complete clinical picture of the disease given with a list of a series of cases discussed in the Johns Hopkins Hospital—eleven in all. Regarding the treatment, the author concludes that no one plan seems applicable to all cases and suggests the method employed in his own case as perhaps the one most applicable to the large proportion of cases, to-wit: a preliminary enterostomy; then a colocolostomy some months subsequently; finally a complete excision of the affected portion. This artificial anus is left open until after the success of the proceeding steps are assured when it should be closed under cocaine anesthesia.

Dr. Earle, in his report alluded to another case of "*Idiopathic Dilatation of the Rectum and Colon as far as the Hepatic Flexure.*" which was reported by H. Morely Fletcher, M.D., and H. Betham Robinson, M.S., (Clinical Society's Transactions, Vol. XL, p. 80.)

Another case of interest reported was that of a "*Sarcoma of the Rectum in a boy*" aged ten years, by

Cecil Rountree. (Proceedings Royal Society of Medicine, February, 1908.) The pathological examination showed the tumor to be a mixed cell sarcoma. Of five hundred and ninety-six cases analyzed in the Cancer Research Laboratory, of the Middlesex Hospital Reports, there were only six cases under thirty years of age—the age of the youngest, a boy of sixteen years, who had a sarcoma of the rectum. There are likely to be many metastasis in sarcoma of the rectum. This malady is rare at any age.

Attention was called to the method of Dr. Dudley Roberts of Brooklyn, N. Y., (The Medical Record, Vol. 7, p. 985,) for “*Gradual Painless Dilatation of the Anal Canal by Dilatable Rubber Bags*,” which appealed to Dr. Earle forcibly as a very satisfactory means of accomplishing the purpose designed.

Attention was called to the article of Dr. Charles O. Files of Portland, Maine (New York Medical Journal, Vol. 87, p. 1154), in which he considers that there are two important factors that should be studied in connection with the “*Treatment of Pruritus Ani*.” These are an analysis of the contents of the rectum and the physical condition and mechanical efficiency of the sphincter ani muscles—external and internal.

The normal feces contains about 73 per cent of water. This water holds in solution various volatile, fatty acids, and probably other irritating excrementitious substance. During the retention of the feces in the rectum a considerable portion of the water disappears. In prolonged constipation, the feces become hard and dry, some of the fluid passes by osmosis into the cellular tissue about the anus and thence to the skin. The liquid feces are very often irritating to the mucous membrane of the anus, and causes an intense burning sensation. When this acrid solution is absorbed into the cellular tissue, it causes an irritation of the skin, and we call that irritation, pruritus ani.

The sphincter muscle as long as it remains in a normal condition prevents the passage of any appreciable amount of fluid through it. When, however, the action of the sphincter is made somewhat irregular by the pres-

sure of a hemorrhoidal condition some of the fluid leaks through the anus and causes pruritus by direct contact. The skin about the anus is often found to be moist in persons having hemorrhoids.

Dr. F. W. Dudley, of Manila, P. I. (Journal of American Medical Association, Vol. 51, p. 991), reports a "*New Bloodless Method of Amputating the Anus and Rectum.*" A description of the same being given.

Dr. W. Ernest Miles, (London Lancet, 1908, Vol. 2, p. 1812), Reviews the "*Perineal Excision for Carcinoma of the Rectum, and of the Pelvic Colon*" and states that so far as he has been able to gather from the literature on the subject, the technic of previous operations seems to have failed in one important respect, namely, the complete eradication of the zone of upward spread of cancer from the rectum, whereby the chance of recurrence of the disease above the field of operation can be distinguished, if not entirely obviated. In his personal experience of fifty-seven such peritoneal operations, he found that recurrence took place in periods from six months to three years in fifty-four instances.

In order to ascertain the cause of his failures he made a post-mortem examination of such of his patients who died and found that recurrence appeared in situations that were beyond the scope of removal from the peritoneum, namely: (a) the pelvic peritoneum; (b) the pelvic mesocolon; and (c) the lymph nodes situated over the bifurcation of the left common iliac artery. He considers that this area constitutes the zone of the upward spread of cancer of the rectum, the removal of which is just as imperative, as is the thorough clearance of the axilla in cases of cancer of the breast, if freedom from recurrence is to be obtained.

The appreciation of this important fact, induced him two years ago, to abandon the perineal methods of excision of the rectum and to substitute, therefor, an abdominal method, comparable to those methods of performing abdominal hysterectomy known as the Wertheim and the Kronig-Wertheim. He then gives the technic of his operation in full, and has formulated

what he considers certain essentials, which must be strictly adhered to, if satisfactory results are to be obtained, namely: (1) that an abdominal anus is a necessity; (2) that the whole of the pelvic colon, with the exception of the part from which the colostomy is made, must be removed because its blood supply is contained in the zone of the upward spread; (3) that the whole of the pelvic mesocolon below the point where it crosses the common iliac artery, together with a strip of peritoneum, at least an inch wide on either side of it, must be cleared away; (4) that the group of lymph nodes situated over the bifurcation of the common iliac artery are in all instances to be removed; and lastly (5) that the peritoneal portion of the operation should be carried out as widely as possible, so that the lateral and downward zones of spread may be effectively extirpated.

B. G. A. Moyinham, M.D., Leeds, Eng., (Surgery, Gynecology, and Obstetrics, 1908, Vol. 6, p. 463), calls attention to the "*Frequent Recurrences After Removal of Carcinoma from the Upper Rectum and Sigmoid*," and also for the necessity of inguinal colostomy on account of the sacrifice of a large portion of the bowel in perhaps a large majority of cases.

"NECESSITY FOR ROUTINE EXAMINATION OF THE RECTUM IN INTESTINAL DISEASES: ILLUSTRATIVE CASES."

BY DWIGHT HENDERSON MURRAY, M.D., SYRACUSE, N. Y.

Dr. Murray's paper was one of special interest to the general practitioner and emphasized the necessity for rectal and colonic examination in all cases of protracted diseases of the digestive tract, whether special symptoms are directed to the rectum and colon or not.

In many cases of gastro-intestinal disturbances the real cause may be found in the rectum or colon, if sought, though the patient gives no symptoms of such rectal trouble these are amenable to local treatment.

A thorough examination including rectal and bacteriological examination of the stools, should be made in every chronic intestinal case before beginning treatment.

He advised that physicians should not treat patients who refuse to allow the necessary examination.

He reported illustrative cases including so-called intestinal indigestion and dyspepsia, chronic diarrhea, cancer of the sigmoid, and internal hemorrhoids.

A case of internal hemorrhoids where the attending physician had entirely neglected to examine the rectum, had been treated by lavage seven months, for so-called dyspepsia and dilation of the stomach without benefit, and was told that a gastro-enterostomy was the only hope of cure. After an operation for radical removal of the internal hemorrhoids he was cured of his dyspepsia. A careful diagnosis would have saved this patient years of suffering.

The patient's life in one instance (possibly) and certainly the general reputation of the medical profession in all of the cases would have been better had the patients been carefully examined.

This neglect was found to be true not only of the physicians in this country, but of physicians in Europe, who had treated some of the cases in the list reported.

The author made a plea not only for local but bacteriological examination, claiming that every case of diarrhea, continuing for a longer time than is sufficient for nature to eliminate the irritating material that may be causing it, is due to a more serious disease.

There are many local conditions that cause a chronic diarrhea which would be eliminated by a simple operation or local treatment. When allowed to become chronic while depending upon oral medication, frequently the time when a cure could be effected had passed, and chronic invalidism or death may result.

"SIR CHARLES BALL'S OPERATION FOR INTERNAL
HEMORRHOIDS,"

was the title of a paper read by G. W. Combs, M.D., Indianapolis, Ind., in which he briefly described the operation advised by Mr. Ball for the removal of internal hemorrhoids which consists: (1) of making a curved incision opposite the pile being treated, terminating in the mucous membrane on either side of the pile, the greatest

convexity not including more than one-third of the revolved anal ring; (2) of bluntly dissecting the pile from the external sphincter, the dissection being carried upward until healthy mucous membrane is reached; (3) of crushing the pedicle in a powerful clamp; (4) of passing a heavy silk ligature subcutaneously in the remaining two-thirds of the revolved anal ring and through the crushed mucous membrane pedicle, one part of which is constricted in a first tying and the whole of it in a second; (5) of tying the ligature very tightly, thus bringing the remaining two-thirds of the revolved anal ring up into position, maintaining it there until union takes place and constricting the pedicle so that sloughing will occur.

The results obtained by the writer have not been so favorable as those that should follow the procedure as indicated by the author.

The following are the writer's conclusions:

1. The post-operative pain is greater than after the usual ligature or clamp and cautery method.

2. The duration of the healing period is not shortened because of the sloughing of the ligature from either the skin or pedicle before union takes place, leaving the wounds to heal by granulation.

3. There is a necessity for unusual watchfulness that all ligatures may be removed as they slough.

4. Failing to secure primary union, skin-tabs frequently remain for subsequent removal.

5. No time is saved by this modification of the ligature operation.

6. There is danger of secondary hemorrhage from an early tearing off of the pedicle by traction.

“THE TECHNIC OF THE INJECTION TREATMENT FOR
HEMORRHOIDS,”

was the title of the paper by Dr. Edwin A. Hamilton, of Columbus, Ohio, who stated that the injection treatment does not have a wide application; as its indiscriminate use is followed by embolus, abscess and other complica-

tions; and relapses are prone to occur except in cases especially adapted to this method. The instruments needed are a cone-shaped anal speculum with one broad fenestrum and a special copper-tipped long needle of large caliber with an outside barrel which may be screwed to the needle proper to regulate the depth to which it may be inserted. The solution is 10 per cent carbolic acid, 90 per cent oil of sweet almonds. Neither water nor glycerine is used in the solution as they cause pain. When the sphincter is normal or hypertrophied, the hemorrhoids are never strained outside of the rectum and treated there, but are allowed to protrude through the fenestrum of the speculum and attended to in their normal location. In cases where the sphincter is dilated and the hemorrhoids are easily replaced, they may be treated outside, but under no other conditions. From four to eight drops are injected in a hemorrhoid, only one injection being made at one treatment. The patient rests in the recumbent posture for several minutes. No application or dressing is applied. The bowels are moved after the second day. Subsequent treatments may be administered at intervals of five days.

Recent Progress in Medical Science.

AN ARGUMENT FOR CESAREAN SECTION.

The causative character of birth injuries in epilepsy is attracting merited attention these days among obstetricians and surgeons. There seems to be a growing sentiment that surgery's promising field in epilepsy is really that of prophylaxis as applied to the prevention of birth injuries. In a recent paper Porter again urges the adoption of Cesarean section in difficult labor for this purpose. He quotes the statement of Frazier, that 30 per cent. of the children who recover from cerebral hemorrhage due to birth injuries develop epilepsy later in life and says:

"It will be noted that in this statement no account is taken of the children that die from hemorrhage, some of which could undoubtedly be saved by intelligent surgery. This point is not

germane to the paper, but the importance of it is a sufficient excuse for the digression. To advocate the performance of Cesarean section for the simple purpose of preventing epilepsy in the child thus delivered would seem absurd, and it is quite certain that many will consider the statement that the prevention of epilepsy is a strong argument in favor of Cesarean section as against high forceps, version and other so-called obstetric operations in cases of fetal and maternal disproportion, as little short of this. However, I venture the statement and aver that it rests upon uncontroverted, and, I believe, incontrovertible, facts quite sufficient to warrant its being made. Time will not permit me to detail the reasons for the faith that is in me, so I will content myself with saying that they have been arrived at after a somewhat extensive and careful study of the subject, * * * which study leaves no doubt in my mind but that prolonged and difficult labor is a fruitful cause of epilepsy; and hence, the prevention of epilepsy is a strong argument in favor of Cesarean section in preference to high forceps and other obstetrical methods."—*Medical Fortnightly*.

ACONITE POISONING.

Seba reports, in *The Medical Herald*, his experience with a puerperal woman, aged 30, who, by mistake, took two teaspoonfuls of the homeopathic mother-tincture of aconite. Dr. Seba reached her bedside about thirty minutes after.

The patient, he found, was very slow in answering questions, and was unable to give any particular reason for taking the medicine. Her face showed great anxiety. The respirations were increased but shallow, the pulse weak and feeble, speech impeded, words uttered with difficulty, the skin cool, clammy and covered with perspiration, the extremities showed great muscular weakness, the eyes were listless, the pupils slightly dilated. She appeared to be overwhelmed with a sense of weakness, and there was slight tremor of the extremities. She did not speak of tingling of the tongue at the time, but did so later. She mentioned that when she swallowed the tincture it caused a burning sensation in the stomach and throat.

Dr. Seba at once administered strychnine, 1-20 grain hypodermically, repeating in thirty minnes. Thirty minutes after that he gave her a third dose of 1-10 of a grain in the same manner making 1-5 of a grain of strychnine in all within a single hour. Under this treatment the symptoms ameliorated, and in two hours he left the patient, feeling that she was safe, and which proved to be the case.

There seems no question that the prompt and admirably directed treatment so boldly carried out saved the patient's life.—(*Am. Journal of Clin. Med.*)

SPINAL ANESTHESIA.

Professor Jonnesco of Bucharest, who has recently come to this country, has been using spinal anesthesia in all of his operations since October, 1908, in both hospital and private practice in the spite of its condemnation by his colleagues. He makes his injection either in the dorsolumbar region for operations on the abdomen or lower extremities, or at the level of the second dorsal vertebrae for operations on the upper portions of the body or the head. He adds strychnine to the anesthetic, preventing in this manner, it is claimed, the occurrence of bulbar symptoms when the higher injection is selected. Jonnesco claims as advantages for this method that it can be given by the surgeon himself without a special anesthetist as assistant and that it is absolutely safe (his confidence is indeed disquieting.) He has used it in 412 cases, in 117 of which the upper dorsal injection was selected and adding these cases to those of his colleagues who have tried the method, there is a total of 623 operations in the course of a year on record without a death and without any serious complications. It is said, that on going to London he quickly overcame the conservatism of the London surgeons by his demonstrations and it is to be hoped that his demonstrations in America will be able to prove to us that this method of anesthesia, which has so many advantages, is a safe and reliable one.—(*Colorado Medicine*.)

POLIOMYELITIS IS INFECTIOUS.

The fact that poliomyelitis has prevailed in epidemic form for several years, both in America and Europe, has convinced many people of its infectious nature, but it is only recently that this fact has been established beyond a reasonable doubt.

Flexner and Lewis of the Rockefeller Institute, in the November 13th number of the *Journal A. M. A.*, report the results obtained by them from the inoculation of monkeys with an emulsion of the spinal cord obtained from fatal cases of poliomyelitis. The earlier experiments along this line were made with fluid obtained by lumbar puncture from patients with this disease and they were usually unsuccessful, but by using the cord substance they were able not only to produce the characteristic symptoms and central lesions of the disease in monkeys, but to transmit it from monkey to monkey through four successive inoculations. In several cases they were able to inoculate monkeys with an emulsion of the cerebral cortex as well as of the spinal cord. The method employed was intracranial inoculation through a small trephine opening.

The transmissibility of the disease being now well established, there is little doubt that careful work will soon lead to the discovery of the specific cause of poliomyelitis and probably to mode of transmission, thus giving clinicians a working basis for prophylactic measures.

Up to the present time physicians have been unable to cope successfully with this disease, which causes so much permanent crippling of children, in addition to many deaths. We sincerely hope that this discovery may lead to others which will enable us to limit the spread and control the ravages of this juvenile scourge.—*Western Medical Review.*

TREATMENT OF DIPHTHERIA.

No doubt the modern therapy of diphtheria of the upper air-passages is exceedingly simple, if the case is seen early enough and no complicating factors are present. The large number of antiseptics formerly recommended is almost forgotten, and local treatment only plays a subordinate role, since the value of anti-

toxin injections has been realized. More recently, however, many authors have voiced the opinion that the antitoxin is not always a panacea in this disease, and that other remedies must be sought for to assist its action. Thus, the serum acts only on the toxin and does not influence the anatomical lesions. A firm union between toxin and the bodycells occurs in about two hours, and this combined toxin can no longer be neutralized by antitoxin. The growth of the bacteria themselves is in no way inhibited by the antitoxin, and the latter also combines but imperfectly with that part of the toxin that causes paralysis. Hence the local treatment of diphtheria is again coming into vogue, but chief attention is not directed toward antiseptics but to enzymes.

One of the most important of these ferments is formed by the bacillus pyocyaneus, the germ of blue pus. A thick skin will form on the surface of liquid culture of the micro-organism within a few days; if the flask is shaken, the skin will disintegrate and fall to the bottom, and soon a new skin will develop. This process will go on for from three to four weeks, when all growth will cease. The sediment is very voluminous, but will gradually dissolve, owing to the action of a ferment that is present as insoluble symogen in the body of the germ, and is set free on shaking. This enzyme is called pyocyanase, and can be obtained in a germ-free, concentrated condition, if a culture three weeks old is filtered through a Berkefeld filter and evaporated in vacuum to one-tenth its original volume.

Numerous experiments have shown that this pyocyanase dissolves not only the pyocyaneus bacillus, but also the germs of diphtheria, typhoid, cholera, plague, and anthrax, as well as strepto-, staphylo-, and gonococci. On the other hand, germs with more resistant membranes, such as the tubercle bacillus, are not affected. The exceedingly powerful action of the enzyme is demonstrated by the following experiment: One cubic centimetre of pyocyanase solution was inoculated with diphtheria germs; actual count showed the presence of 1,140 million. After three hours the number had diminished to 9,500; after eight hours all were dissolved, while in a control experiment with saline solution, there was a pronounced increase. If 1½ to 10 per cent. pyocyanase is added to agar, diphtheria germs will not develop on this medium.

Besides its pronounced bacteriolytic powers, the enzyme also neutralizes toxin like the antitoxin, and dissolves membranes like trypsin (3 Gm. will dissolve an equal amount of fibrin in four hours.) Clinically, therefore, the following can be expected from pyocyanase: 1. It will diminish the number of germs in the membranes as well as on the surface of the mucous membranes; 2, it will prevent the growth of new germs, and 3, bind the toxin; 4, the membranes already formed will dissolve; 5, the growth of staphylo- and streptococci is rendered impossible, and, 6, it will stimulate the tissues to heal the defect.

The best way to apply pyocyanase is as spray. The recent experience of Boltenstern (*Deutsch. Aertz. Zeit.*, 1909, No. 9) demonstrates without doubt that the course of diphtheria is much shortened by a combined pyocyanase and antitoxin treatment, but that the latter should not be dispensed but that the latter should not be dispensed with. Unlike antitoxin, pyocyanase does not induce an immunity, hence does not prevent recurrences.

In the ordinary case 3 to 4 Cc. are vaporized over the affected parts three or four times a day. The solution should be warmed up to 40 C. In the more severe types of disease, the applications may be made every two to three hours. They can only be made by the physician himself, and a competent person must hold the child. No bad after-effects are ever noticed, and if some of the solution is accidentally swallowed, it will do no harm. The use of other gargles is to be avoided. Mucous membranes or ulcerated areas which discharge profusely should be first irrigated and dried. Sometimes it is advisable to insert tampons moistened with the solution. Where spraying is impossible, steam inhalations with pyocyanase may be resorted to.

Pyocyanase has also been employed with good success in a number of other conditions. Thus, it has been recommended in the throat complications of scarlet fever, both as prophylactic and curative agent, in tonsillitis, Plaut-Vincent's angina, grippe, cerebro-spinal meningitis, eye-disease, suppurations of the middle ear, and abscesses. Subcutaneous injections have been recommended in erysipelas, puerperal sepsis, etc., but the results here have not been so promising. In gonorrhea the germs often disappear very rapidly, but recurrences are common.

Since only favorable reports have been obtained, particularly in the treatment of diphtheria, it is to be hoped that this excellent remedy will soon be used extensively. — (*Merck's Archives*, Nov. '09.)

LOCAL FACTORS IN ETIOLOGY OF TUMORS.

Among the many etiologic factors which are looked upon as important in considering the development of tumors, the idea, from which escape seems impossible, that trauma stands in positive causative relationship in many instances has persistently imposed itself upon the minds of observers. Certainly an imposing array of instances can be cited in which tumors, and especially malignant tumors, follow local injuries, either mechanical or toxic, or are associated with chronic inflammatory processes. Delafield and Prudden, in their excellent text book, say that bruises or contusions, particularly those involving the bones, are not infrequently followed by malignant tumors, and it is noteworthy that these tumors are most apt to be of the connective-tissue type—sarcoma, osteo-sarcoma, chondroma, &c. Epithelial tumors, on the other hand, are more frequently developed at the seat of repeated injury or long continued irritation. Thus, epitheliomata are common in the mouth, near a rough ulcerated tooth, on the lips of pipe smokers, at the edges of chronic ulcers, on the skin of workers exposed to various chemical or mechanical irritants in vices: at the orifices of the stomach and at the anus. Finally, the frequent occurrence of carcinoma of the liver with cirrhosis, though less easy of interpretation than many instances of the association of tumors with chronic inflammation, is worthy of notice in this connection. It must, however, be remembered that undue significance should not be attached to the occasional association of tumors with trauma, prolonged irritation, and chronic inflammation, since in the great majority of cases these conditions are not followed by tumors, nor, furthermore, has it ever been possible to induce gemine tumors experimentally under these readily secured conditions in animals. The bearing of trauma upon the origin of tumors is to be held in mind in estimating the influence of sex, since males are in general more liable to injuries than females.

The relatively common development of tumors in pigmented and other naevi of the skin illustrates the significance of local malformations as predisposing factors in the origin of tumors, although it should not be forgotten that many of the complex tissue growths often reckoned among tumors and called teratomata are really embryonic rudiments of another individual. While such rudimentary embryos may be large and present such diversity and arrangement of tissue as to render the character of the growth obvious they may, on the other hand, be very simple in character, as in some of the so-called dermoid cysts. These are all to be regarded rather as malformations than as genuine tumors. Several cases have been recorded in which through injury there has been a mechanical displacement of cells—*heterotopia*—from which in their new situation tumors have developed. These cases, which have been in a measure paralleled by experiments in animals, illustrate an important class of congenital tumors, often cystic in character, which arise from embryonal cell displacement, or, as is the case in many of the tumors of the neck at the side of bronchial clefts, from an imperfect closure of embryonal openings.—*Charlotte Medical Journal*.

MEDICINAL BARKS.

A Government bulletin calls attention to fifteen or twenty different kinds of barks that are recognized by the U. S. Pharmacopœia, a dozen of these growing in the United States.

A million pounds of cascara bark are furnished by our country every year, the product per tree annually being about ten pounds. Considerable white pine bark is used in making cough syrups. Aspen bark is a tonic. Butternut bark is used as a laxative. White oak bark is an astringent and antiseptic. The bark from the horse-chestnut is a febrifuge and narcotic; while that from the cramp-bark tree, true to its name, is good for stomach ache.

Sweet birch bark by maceration and distillation supplies an oil almost identical with wintergreen oil, and which is employed for similar purposes. Slippery elm bark has considerable commercial value, its uses being well known.

Sassafras bark is a popular domestic spring medicine. In early spring the market women display it on their stands and sell it for tea-making. Sassafras oil is made from the root and has anodyne properties, being considerably used in liniments. Among the very important barks produced in this country is witch-hazel because of the extract produced from it. It is said that the American Indians understood the value of witch-hazel long before Columbus landed.—*Medical Summary.*

THE PRE-OPERATIVE PURGE.

The routine use of the pre-operative purge has recently been attacked by Edwin Walker, and perhaps with much reason. It is so easy, disregarding the exigencies of the individual case, to follow the almost dogmatic dictum of a pre-operative catharsis, and it is well to have the whole subject brought to our critical consideration. Except where obstructive lesions of the bowel are present it is with most surgeons a routine measure to order catharsis followed by a cleansing enema. No doubt the frequent effort—drastic as it sometimes is—weakens the patient, lessens resistance and stimulates germ activity. It is a well-known fact that after the administration of calomel and other cathartics, for a period of twenty-four to forty-eight hours, the germ activity in the intestinal tube is augmented; and when the factors of anesthesia, and operation are added, the resistive powers of the body are put to a severe test.

No doubt thorough yet mild catharsis two or three days before operation and a light digestible diet from then until the eight to twelve hours of food starvation would leave the vital powers in better shape than the pre-operative purge, usually administered within the twenty-four hours before operation.—*Southern Medicine and Surgery.*

SULPHIDE OF CALCIUM.

There is some evidence that the interests in therapeutics is not on the wane, especially is this true concerning sulphide of calcium. Several of the medical journals have published very favorable comments upon an article by Dr. Clarence D. Ussher

of Van, Turkey, upon this subject, which appeared in the Medical Record, September 25.

S. E. Earp in Merck's Archives, January 1900, details the use of sulphide of calcium and quotes Dr. J. N. Hurty as giving some information in reference to its action in smallpox. A copy of the article was sent to Drs. H. A. Hare, David M. R. Culbreth and eGorge F. Bualer and a brief but favorable expression of opinion was received from each one.

The letters were published in the Medical and Surgical Monitor, now the Indianapolis Medical Journal, September, 1901, in the course of an article, which in part said:

The favorable results from the use of sulphide of calcium are of sufficient importance to warrant its more frequent use. Success depends much upon the selection of cases in which it is especially adapted; this may be said respecting all remedial agents, but can be emphasized in this instance from the fact that sulphide of calcium has oftentimes been used indiscriminately and curative results have been looked for when it was an inappropriate remedy.

Furthermore, the selection of the preparation is an important consideration. If the drug is in a form that may deteriorate by exposure to air, the chemical change will produce an insoluble compound and hence is almost worthless. To obviate this difficulty I have used the gelatin-coated pill. The cases in which it has met with favor are those in which there are indications of suppuration. As a preventive measure it is surely worthy of consideration. I have frequently seen pustulation aborted, and in some instances such as smallpox, the pustules did not appear characteristic; thus in two instances the diagnosis for a time was questioned, only to be cleared up by a history of the subsequent line of treatment.

Its use in the treatment of boils, furuncles, acne, eczema and glandular enlargements is followed by an improvement in the condition and usually a cure.

In the non-specific glandular lesions it may prevent suppuration or if not given sufficiently early, will hasten the climax of suppuration. In specific cases, it is an adjuvant to mercury and iodide of potassium.

In scrofulous cases it is valuable indeed. When good hygienic measures have been inaugurated and sustaining remedies

administered together with a wholesome and nutritious diet, even then, oftentimes we can not discern the marked improvement desired; in such cases, it will be encouraging to note the benefit when sulphide of calcium is additionally used.

It seems apparent that sulphide of calcium is credited with a curative power but the channel of its usefulness is too confined and it deserves a wider scope. In a few suppurative processes the current reports show that it has proved an efficient remedy but there are many instances of a varying character in which its use will unquestionably be followed by good results.

In the case of felon, boil or sty, probably its curative competency is conceded and it might be well to bear in mind that the successive manifestations which so frequently occur are avoided in almost every instance.

In cases of purulent conjunctivitis and ophthalmia and also suppurative diseases of the ear, I have noted splendid results from the internal use of this remedy; however, in such conditions the local applications of peroxide of hydrogen, I consider very important. I am confident that many pus-filled cavities may, after exaenation, be cleansed with peroxide of hydrogen and then by use of sulphide of calcium better results can be obtained than by some of the more common methods.

Now we have the results of Dr. Ussher's experience and if we can verify it the usefulness of sulphide of calcium is beyond our former expectations.

The Gulf States Journal of Medicine and Surgery for November refers to the article in the Medical Record as follows:

"The writer, Dr. Clarence D. Ussher, of Van, Turkey, first places himself properly before the public by stating his official positions and the breadth of his opportunities and experience, and then makes his assertions, modestly but positively.

First, he claims to have found in calcium sulphide a sure cure and prophylaxis against that most contagious of all fevers, typhus, often called ship fever, camp fever, prison fever, etc., etc. For this disease it is a sure preventive and a specific cure, according to Dr. Ussher.

Second, calcium sulphide will cause the absorption and disinfection of large quantities of pus, and will prevent pus formation, externally or internally.

Third, he claims that calcium sulphide seems to be an efficient prophylactic for scarlet fever, and distinctly modifies scarlet fever and measles.

Fourth, it prevents suppuration, pustulation and pitting in smallpox, very decidedly shorten the contagion, and acts as an efficient prophylactic in the absence of vaccination.

In proof of his claims he recites record after record of clinical experience, and no one can read his article with an unbiased mind without being convinced that "there is something in it." He says the drug must be fresh and pure; that when its odor is lost its power is lost also.

The subject is too important to be dismissed with a shrug. For a long time many doctors, both eminent and otherwise have been successfully using calcium sulphide internally for acne. In one female college the editor learned that the pupils bought 1-4 grain tablets of sulphide of calcium regularly as "complexion pills," and considered them a sure cure for "pimples."

For a long time the American Journal of Clinical Medicine has been advocating its use in all septic and suppurating conditions, but as the owner of the Journal sells the drugs he advocates, though of course not exclusively, his claims for its efficiency have been taken cum grano salis.

But the statements of Dr. Ussher as published in the Medical Record of September 25th put a different face upon the matter. Think of a substitute for vaccination, even though the protection be temporary! How many sore arms it would avert! Think of protection for school children against scarlet fever, though exposed to infection! And the modification of smallpox so as to render the disease milder, and avoid the dreaded pitting, is no little thing.

The proof or refutation of these statements lies in the hands of those members of our profession who control the hospitals in large cities, but those with fewer opportunities should use those they have, for the right or wrong of this matter calls for prompt decision."—*Indianapolis Medical Journal*.

THE TREATMENT OF CHRONIC DISEASE OF THE HEART.

WHETHERED in the *Lancet* of May 22, 1909, expresses the following views on this subject:

1. *To sustain the force of the heart.* This is the point to which main attention is usually directed. The administration of what are known as cardiac tonics is the plan that first suggests itself. It is an error, however, because the heart's action is weak and irregular, simply to rely on digitalis and strychnine. Such drugs are certainly useful; so also are strophanthus, convallaria, and sparteine. But all these drugs must be used with caution and discrimination. Employed alone they may sometimes be sources of danger, especially in advanced life, from the power they possess of raising arterial tension. Speaking generally, they are more useful in acute heart failure than in more chronic cases; many idiosyncrasies occur, and some patients tolerate some of these drugs badly.

Much more can be done by carefully studying the patient's habits of life. We can do much to increase the cardiac reserve by giving the heart rest. In order to do this it is not necessary to make the patient live the life of an invalid. If we can render the work of the heart more even we shall at the same time increase its power. If, then, we find a weak, irregular pulse, indicating that there is not the calm rhythm that there ought to be, a few tactful questions will frequently enable us to ascertain the cause which has upset the tranquility of the circulation. In a very large number of instances we shall find that some psychic process is at work increasing the irritability and apprehension, which are prominent symptoms of a failing or irregular circulation through the brain. A regular cerebral circulation is attended with a feeling of security, a failing circulation with insecurity. If we can in any way help our patients to "throw off life-harming heaviness and cultivate a cheerful disposition" we shall do a great deal toward sustaining the power of the heart. This, unfortunately, is by no means easy, but by suggesting a regular mode of life we can be of some help. We are consulted by patients in varying classes of life, and we must suggest in accordance with circumstances. One of the most difficult is the business man, with myocardial degeneration, who with a large

family to support finds the restrictions and worries of a city life increasingly difficult. In many of these cases it would be most unwise to advise complete retirement from business. But by dint of questions and hints we can often succeed in so rearranging his daily life that the requisite rest can be obtained.

2. *Measures for promoting the nutrition of the heart.* In order to bring this about we must insure that the coronary circulation is satisfactory. This can best be accomplished by regulating the amount of exercise and rest that the patient takes. The principal object is to stimulate the arterial circulation in the muscles, to hasten the venous currents, and also to promote the passage of lymph through the lymphatic channels. The whole metabolism of the body is thus improved, and the result is eventually shown in a better digestion and general relief of the nervous symptoms. This result may be brought about in the more simple cases by directing the patient to take walking exercises daily, the length of the walk being gradually increased and the gradient up which the patient walks being raised if possible. At the same time the patient should pause occasionally and take a few deep respirations. Thus, the lungs requiring more blood, the heart is temporarily relieved. Marked dyspnea and pain across the upper chest are both symptoms which should receive due attention, being valuable guides to the amount of exertion which may be considered beneficial. For those who cannot take active exercise massage may be adopted, whereby the tendency to stagnant circulation is materially lessened. This measure is particularly useful in assisting to stimulate the coronary circulation in those patients who are bedridden, or compelled to take very little exercise, and on that account tend to impairment of the heart's nutrition and suffer from chilly extremities, feeble pulse, torpid digestion, and passive pulmonary congestion.

3. *To reduce the peripheral resistance.* Before discussing the mechanical means which have been introduced with the object of regulating exercise the author briefly considers the third principle which should govern our treatment—namely, the reduction of the peripheral resistance. He does not think that this element has been sufficiently emphasized or understood. It is evident we can attempt to help the heart either by increasing its power or reducing the work which it has to do—that is to say, by reducing the tension in the peripheral vessels. To some extent

this may be done by drugs, although recent investigations have shown that the vasodilators as a rule only cause very temporal lowering of the tension, and are more of use when a temporary relaxation of the walls of the vessels is required instead of a prolonged effect. Thus the vapor of amyl nitrite is very rapid in its action, and so is useful in an attack of angina pectoris, when immediate and decided action is necessary. The same remark applies to nitroglycerin, usually prescribed in the form of liquor trinitrini or in tablet form. For a more prolonged action nitrite of sodium will be found satisfactory. The author has also obtained good results from the administration of iodide of potassium (from three to five grains) with the bicarbonates of sodium and potassium. These may be combined with the cardiac tonics, strophanthus being given if the tension is inclined to be high.—*The Therapeutic Gazette*, November, '09.

Therapeutic Suggestions.

HOPE'S MIXTURE.—

Tr. opii.	gtt. xx
Acidum nit.	gtt. xxx
Aqua. camph.	oz. iv

M. Sig. Tablespoonful every two hours. For diarrhea and dysentery.

ACUTE PHARYNGITIS.—

Codeine	gr. 5
Ext. catechu	gr. 30
Ext. glycyrrhiza	gr. 150

M. Sig. Divide into thirty troches. One every two hours.
—*Merck's Arch.*

RHEUMATISM.—

Ac. salicyl. pulv.	
Ol. terebinth	aa dr. j
Lanolin	oz. j

M. Sig. Use as an ointment, first cleaning the skin with soap and water. Use friction for five minutes. *Husson, Revue de Therapie.*

TO CHECK MILK SECRETION.—

Atropinae sulphat.	gr. $\frac{3}{4}$
Magnes. sulphat.	oz. 2 + dr. $6\frac{1}{2}$
Infus. gentianae	oz. $7\frac{1}{2}$

M. Sig. Tablespoonful every two hours.—*Gaz. Hebdomad.*

BRONCHITIS.—

Codein	gr. 4
Dil. hydrocyanic acid	gtt. 45
Ammonium chlorid.	gr. 45
Syrup of wild cherry	fl. oz. $11\frac{1}{2}$

M. Sig. Teaspoonful every three or four hours.

ALKALINE URINE.—

Acidi borici	dr. iiss
Ext. uva ursi fl.	
Ext. hyoseyami, fl.	
Ext. lupulini, fl.	aa dr. iv
Syr. zingiberis	oz. ij
Aq., q. s. ad.	oz. vj

M. Sig. Two teaspoonfuls in water after meals.—*Ec.*

BOILS.—L. Duncan Bulkley commends the following for local application:

Acid, carbol.	3.65 (gr. v.-x) .
Ext. ergot	4-8 (dr. i-ij.)
Pulv. amyli	4 (dr. ij.)
Zinci. oxidi	4 (dr. ij.)
Ung. aquae rosae	30 (dr. viij.)

MAMMARY INFLAMMATION.—

Ungt. belladonnae	oz. j
Ungt. hydrargyri	
Ichthyoli	aa dr. iv
Cerati plumbi subacetatis	oz. j

M. Sig. Apply to breasts freely and employ tight breast binder.—*Med. News Formulary.*

BOOK REVIEWS.

A TEXT BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, A.B., M.D., Gynecologist to Columbus Hospital, Consulting Gynecologist to the French Hospital, etc., with the collaboration of Geo. Jarman, M.D., Gynecologist to the General Memorial Hospital, late Obstetric Surgeon to the New York Maternity Hospital, and Simon Marx, M.D., late Obstetric Surgeon to the New York Maternity Hospital. Fourth Edition, Revised and Enlarged. Illustrated, with 47 full page photo plates and 116 illustrations in the text. F. A. Davis & Co., Philadelphia, 1909.

This text-book is characterized by the practical nature of the advice and the treatment outlined. It is the expression of ideas of its authors and not a mere compilation of all that has been written by other men. The various theories and the moot points are as a rule discussed very briefly, the aim being to present the facts that are known and the treatments as a rule that are most generally accepted, with such modifications as have been suggested by the experience of the writers. The illustrations as a rule are very good. There are a few however which show what ought not to be done, and they mar the otherwise general excellency of the work. The style is very clear and very readable. It can be recommended as a valuable addition to the library of Obstetries.

P. F. B.

Bulletin No. 52 is as usual very interesting. The cause of high rate of typhoid fever in Washington was found to be due to other than water agents. The water in Washington was found to be comparatively free from typhoid bacilli, and the bulletin attributes it to milk infection and other agents.

M. L. R.

The Jubilee Number of *Annals of Surgery* is full of very interesting and instructive articles. The significance of Thyroidism and its relation to Goitre is one of the best articles ever written on that subject. Cancer of the Prostate is a timely and good article from the pen of Hugh Young. On the whole, this is the best number ever gotten up, and is full of scientific and practical essays.

M. L. R.

THE SOOTHING OF A RASPING COUGH.

The soothing of the rasping cough of bronchitis, without resorting to some form of opium, is one of the features of daily practice that will contribute to a doctor's success. For relieving this harassing cough, Cordial of the Extract of Cod Liver Oil Compound (Hagee) is being largely prescribed, and with the fullest measure of success. It is particularly adapted for use in these branchial catarrhs, not alone for its relief of the urgent symptoms, but also by reason of its protecting influence against further extension of the bronchial inflammation and chronicity.

RELAXED CONDITION OF UTERUS OR APPENDAGES.

Physicians are frequently consulted in regard to various disorders, largely dependent upon the relaxed condition of the uterus or appendages, which is frequently accompanied with neurasthenic symptoms and are in a congested and engorged state, rendering these organs painful and by their pathological condition very detrimental to the general health of the patient. Many women thus affected object to local treatment which frequently places the physician in an embarrassing attitude, and he is perplexed to inaugurate a treatment satisfactory both to himself and patient. He feels the necessity of certain drugs which are known to exercise a beneficial soothing tonic effect on the female reproductive organs. In many cases of dysmenorrhea, uterine leucorrhea, menorrhea or urethritis, before he can confidently rely upon permanent beneficial results from any local treatment, it is necessary to control by the administration of certain internal remedies, those symptoms which are neurasthenic in character and which are insiduously but surely undermining the constitution. For the purpose of at least soothing and controlling these pelvic neuralgias, the most satisfactory results in such cases can be obtained by the administration of Dioiburnia, two parts combined with Nenrosine one part. You can depend upon your patients returning and expressing themselves that the medicine you dispensed caused their nervousness, etc., to abate and request of you some more of the same. Doctor, give this combination a trial. See advertisement, front cover.

Battle & Co., of St. Louis, have just issued No. 11 of their series of charts on dislocations. This series forms a most valuable and interesting addition to any physician's library. They will be sent you free of charge on application, and back numbers will also be supplied. If you have missed any of these numbers, better write Battle & Co. for them before the supply is exhausted.

ADRENALIN IN A NEW PACKAGE.

In addition to the ounce vials in which it has hitherto been supplied, Adrenalin Chloride Solution is now being marketed in hermetically sealed glass containers of 1 cubic centimeter capacity. "Adrenalin Ampoule" is the name used to designate the new package, and the solution is of the strength of 1 to 10,000 (one part Adrenalin Chloride to 10,000 parts physiologic salt solution). In their announcement of the ampoule Park, Davis & Co. have this to say:

"Adrenalin Chloride Solution has become a necessity in medical and surgical practice. The most powerful of astringents and hemostatics, it lends itself to many practical uses and at little risk of injury in reasonably careful hands. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the 'full strength;' and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already diluted preparation is to be preferred. While the danger of deterioration from occasionally opening a vial containing a solution of Adrenalin Chloride is not great, still, in consideration of the fact that a dose is needed now and then for hypodermatic injection, it is believed that the small hermetically sealed package will be welcomed because of its greater convenience and security."

As will be apparent from the foregoing, the Adrenalin Ampoule is intended for hypodermatic use. It should be of great value in such emergencies as shock, collapse, hemorrhage, asthma, etc., or where prompt heart-stimulation is desired.

NOTES.

We beg to announce that Dr. Philip F. Barbour will start a series of articles in the February Number of the *AMERICAN*

PRACTITIONER AND NEWS on the pulmonary affections of childhood, to run through the remaining winter months, and starting in July will also take up the equally important seasonable affections, the summer-complaints of children and infants. We have been very fortunate in securing not only Dr. Barbour, but the character of contributions these two serials will comprise in scope and modernness.

The Jefferson County Medical Society elected Dr. Ellis Saunders Allen as president; S. O. Witherbee, first vice-president; M. F. Coomes, second vice-president; Dunning S. Wilson, secretary; Curran Pope, treasurer; and on the Executive Committee Drs. Leavell, Asman and Schachner.

The following resolutions were adopted by the Ophthalmological and Otolaryngological Section of the Jefferson County Medical Society:

Whereas, It has been our misfortune to sustain a heavy loss in the death of Dr. Wm. B. Pusey, a respected member of our profession; and,

Whereas, We could never speak more highly of the gentility and gracious manner of any one as of our deceased friend and practitioner; and,

Whereas, In the score or more years of his professional career he was loved and appreciated by his patients and bore that same high regard from his profession; and,

Whereas, His devoted family in their recent bereavement have lost a kind and indulgent husband and father; therefore be it

Resolved, That, in the death of William B. Pusey, the Ophthalmological and Otolaryngological Section of the Jefferson County Medical Society has sustained a heavy loss, and that copies of this resolution be sent to his family and the State and County Journal.

(Signed),

WM. CHEATHAM, *Chairman*;

SAM BROWN HAYS,

ADOLPH O. PFINGST,

Committee.

THE American Practitioner and News.

"NEC TENUI PENNÄ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

VOLUME XLIV.

FEBRUARY, 1910.

NUMBER 2.

Editorial.

The latest two diseases, Pellagra and Hookworm disease, have created such a stir in the lay press, that hardly a week passes that you don't see a sensational article about them. They were heralded as new diseases, the like of which have never been known or seen. It is a pity that writers of lay papers don't confine themselves to matters with which they are acquainted so as not to mislead the public mind. It was not long ago that one of the best lay papers of New York published a copyright cablegram announcing two very important "New Discoveries" concerning cancer. After the sensational news had spread all over the country, it became known that the new discoveries were theories that have been known for twenty years. Though Pellagra and Hookworm, in this country, received attention only in the last two years, yet both diseases have been known for centuries.

Pellagra has been known in Europe for centuries, and the first one to describe it, was Dr. Caspar Casal, of Oviedo, Spain, in 1762, who called it "Mal-De-Rose." He also called it "Lepra-Scorbutica."

In 1902 Dr. Chas. Stiles, of Washington, found that the poor whites in the South were not woeful degenerates, but helpless invalids and that the cause of their condition was the Uncinaria or Hookworm, an intestinal parasite, probably brought from Africa by slaves many generations ago.

The disease might have existed there for such a long time that the blacks became immune to it. So we can readily see that the adage, "Nothing new under the sun" is quite true. Many old ideas have passed for new ones.

M. L. R.

Original Communications.

HOOKWORM DISEASE.

(*Uncinariasis Americana.*)

BY J. T. DUNN, M. D.

As the attention of the public is now being drawn to this very important subject by the donation of \$1,000,000 by Mr. Rockefeller for the study and prevention of hookworm disease in the South, where it is estimated 2,000,000 Americans are affected, it will not be inappropriate to present to the medical profession some facts connected with this terrible malady. Having recently treated a case coming from Alabama, I feel at liberty to discuss the matter in the *News* for the benefit of its readers.

As the disease is entirely new in this section and quite rare, I may quote freely from accessible literature to make my paper complete.

This subject is not only important to the general practitioner, but merits the attention of the surgeon as well on account of the rather free bowel hemorrhage which occurs in some of these cases, as was the case in the one referred to me from Alabama, in which case it was thought the hemorrhage was due to hemorrhoids, and it was only after a most careful negative rectal examination that search was made for, and the real cause detected. This was done by the aid of Dr. E. S. Allen, who by microscopical examination of feces, made a diagnosis of *uncinariasis*, having found the eggs in abundance. The case was reported in full at Jefferson County Medical Society, January 17, 1910, and will appear in Jefferson Co. number of Kentucky Medical Journal about April.

There can be no question now as to the importance of a united crusade against this newly-discovered enemy. "The New World hookworm is known technically as *Necator Americanus*, which means 'the American mur-

derer.' This name was given to it because of the great number of deaths it causes, directly or indirectly." (Stiles.)

GEOGRAPHICAL HOME OF THE HOOKWORM.

"Hookworm disease is caused by the presence of small worms belonging to a group of round worms known technically as *Uncinariae*. Two different kinds of hookworms occur in man. One of these is known popularly as the 'Old World Hookworm,' the other as the 'New World Hookworm.' The Old World hookworm is relatively rare in the United States, where the great majority of cases of infection must be attributed to the New World parasite." (Stiles.)

Since the invasion of Cuba, Porto Rico and Philippines by the Americans much has been learned about this disease, for these places are hotbeds for its dissemination.

Patterson tells us in his report of *uncinariasis* in Porto Rico and its treatment, that 90 per cent. of the inhabitants are affected with hookworm disease, and that 30 per cent. of all deaths are due to its ravages.

Stiles, in his Government report, "Hygienic Laboratory" (Bulletin No. 10), tells us in his excellent resume of the subject that "climate, soil and moisture with shade are essential to the development of the ova." Therefore the disease will never be prevalent in cold climate. He places the boundary line at the Potomac and Ohio Rivers. Some few cases do appear north of this section. Virginia, North Carolina, South Carolina, Florida, Georgia, Mississippi, Alabama, and some other Southern States have found many of their inhabitants suffering from this disease.

Such reports as the following are common in the record of Stiles (Bulletin No. 10), compiled while investigating this disease in the South for the Government and show also that his theory of being more common in sandy soil is not without some foundation. Following is his report in full of South Carolina:

SOUTH CAROLINA.

“Camden, Camden County.—Unexpectedly delayed at Camden, I visited the brickyards with Dr. J. W. Corbett. Of seven specimens of feces picked up at random from the ground, probably most if not all from negroes, one was found infected with *Uncinaria Americana*. One white also showed infection with same parasite.

“Maile Goldmine, Lancaster County.—Through the kindness of Captain Thiess, the superintendent of the mines, and Dr. Gregory, the local physician, I was able to examine specimens from five white men and five negroes connected with the mine. All of these examinations were negative.

“Upon leaving Richmond, I happened to recall the observation made by Lucas (in Jordan & Clark, 1898, p. 70), in connection with uncinariasis of the seal pups of Alaska, namely, that the infected animals were almost invariably found on the sand rockeries. I also recalled that I had observed severe outbreaks of uncinariasis in sheep and goats on more or less sandy pastures, and further, that a severe outbreak of the same disease among dogs had once been reported to me as occurring in a sandy yard. Not recalling at the time any similar observation for uncinariasis in man, I determined to test the subject at the first opportunity and from Richmond to Haile Goldmine, I had diligently inquired of every physician I met, whether he found more anemia on sand, clay, or rock soil. Most physicians stated that he thought anemia was more common in sandy than in clay localities.

“Through Captain Thiess I learned that the land near the mines was chiefly a granite sand. With Dr. Gregory, I drove about four miles into the sandy district in Lancaster County and found a family of eleven members, one of whom was an alleged “dirt-eater.” The instant I saw these eleven persons I recalled Little’s description of the dirt-eaters of Florida. A physical examination made it probable that we had before us eleven cases of uncinariasis, and a specimen of feces from one of the children gave the positive diagnosis of infection with *Uncinaria Americana*. There were hundreds of eggs present.

"Inquiring for the largest plantation of this sand district, I was directed to a place in Kershaw County, about six miles from Kershaw, and through the kindness of Dr. Twitty and the owner of the plantation, I was able to make the desired examination.

"There were about sixty white 'hands' on this farm. Going to a field I found about twenty at work. These twenty persons, men, women, and children, correspond in more or less detail to the description of the so called dirt-eaters and resin-chewers. A physical examination showed that they also correspond to cases of uncinariasis. A family of ten members was selected and examined carefully. Specimens of feces from four of them were examined microscopically and found to contain hundreds of eggs of *Uncinaria Americana*. The owner of the plantation informed me that it would be a waste of my time to examine the remaining forty 'hands,' as they were in exactly the same condition as the twenty already examined.

"Driving to a neighboring farmhouse, I found a family of five members, three of whom presented such severe and typical symptoms that I had no hesitation in diagnosing them as due to uncinariasis.

"Kershaw County.—While driving back to Kershaw, I passed a country schoolhouse. The children about twenty-five or thirty in number, were at play during recess, and a mere glance at them was sufficient to show that 30 or 40 per cent. presented the same general appearance as the children on the neighboring plantation.

"At Kershaw several extreme cases were met on the street. The persons in question had come in from the country. One farmer, living about nine miles away from Kershaw, had with him two of his children. He stated that his entire family, ten in number, had suffered or were suffering in the same way as those two boys. Physical examination made uncinariasis probable and the microscopic examination of the feces showed heavy infections with *Uncinaria Americana*.

"Inquiry among the local physicians and the more intelligent laity elicited the information that the cases that I had seen represented conditions which were usually attributed to 'dirt eating,' 'resin chewing,' 'heart disease'

'bloat,' 'amenorrhœa,' 'anemia due to malaria' (mosquitoes were noticeable chiefly by their absence), 'general debility,' 'poor nourishment,' etc. I was further assured that these conditions were general throughout this region and were not, or only slightly, amenable to treatment.

"Taking these cases together, some forty or fifty in all, which I examined carefully within three days, we have one common symptom, namely, anemia; nearly all other symptoms noticed could be reduced to sequelæ of anemia; further, in every case examined microscopically, exceedingly heavy infections with *Uncinaria Americana* were found. Under these conditions, and because the general clinical history corresponded so well with uncinariasis, I have not the slightest hesitation in grouping the cases observed as due to *Uncinaria Americana*.

"Charleston, Charleston County.—Through the kindness of Drs. John Dawson and Robert Wilson, Jr., I was able to meet the students of the Charleston Medical College. Explaining the object of my trip, I asked for volunteers to submit to microscopic examination. Sixteen of the students and one member of the faculty immediately volunteered. Of these seventeen (all men, of course), four were found infected with *Uncinaria Americana* and one showed a heavy infection with *Hymenolepis nana*. The cases of uncinariasis came from the sand districts, namely, Barnwell County; Florence, Saint John County; a sea-coast island near Charleston, and Edisto Island, Charleston County.

"Through the courtesy of Dr. Huger and the ladies in charge of the Charleston Orphan Asylum, I was able to examine 230 white children, both boys and girls. I picked out twenty for closer examination, because of the anemic condition, or stunted growth, etc. Of the fecal specimens obtained, fifteen showed infection with *Uncinaria Americana*. All of the children came from sandy districts of the State—namely, Summerville, Dorchester County; Berkeley County; Adams Run, Colleton County; Plum Island, Charleston County, and McClellanville, Charleston County. One additional case failed to show eggs in the feces, but the clinical history during early childhood seemed typical for uncinariasis. Of the four

remaining cases (two from Charleston (city) and two from Edgeville), one Charleston boy, eleven and one-half years old, and one Edgeville boy, eleven years old, showed infection with whip worms.

"Besides the Charleston physicians mentioned above, I am indebted to Dr. George Simons, president of the State Board of Health; Dr. J. Mercier Green, City Health Officer, and several other gentlemen, for their kind co-operation in my work. Dr. De Saussure stated to me that he had found the eggs of *uncinaria* in the stools of several patients."

WHY CALLED HOOKWORM DISEASE?

Because the series of symptoms presented in these cases are due to infection or lodgement in the intestinal tract of the *Tenia Uncinaria*, or hookworm — so-called from its resemblance to a hook. It is about one-fourth to one-half an inch long, and about as thick as a small hairpin. It has hard cutting plates or jaws guarding the entrance to its mouth, with the aid of which the parasite fastens to the intestinal wall.

"A person may harbor a few hookworms, or several hundred, or several thousand, according to the amount of infection to which he has been subjected. As children are usually subject to infection more than are adults, the disease is usually more common in them.

HOW THE HOOKWORM DEVELOPS.

"These parasites do not multiply in the intestine, as their eggs require oxygen in order to develop. It is important to recall that for every hookworm found in the bowels a separate germ (young worm) must enter the body.

"The parasites in the bowels lay hundreds of eggs which are discharged by the patients in their stools. An ordinary stool from an infected person may contain thousands upon thousands of these eggs. This is an exceedingly important point to remember, for it is only through

the discharge from the bowels that these eggs escape from the patients, and if all such discharges are properly disposed of hookworm disease can be stamped out of existence.

"A few hours after the eggs are passed by the patient a young embryo develops in the egg and escapes from the egg shell. This tiny worm which is scarcely visible to the naked eye, feeds for a few days. Within a week it sheds its skin twice, in somewhat the same way that a snake sheds its skin. It now continues to live in the cast-off skin, but it takes no more food until it enters a person.

HOW THE HOOKWORM ENTERS HUMAN BEINGS.

"The young worm may enter persons in two different ways. First, it may be swallowed in contaminated water or food. Secondly, it may bore its way through the skin. The second way of infection is doubtless the more common. The young hookworms in boring through the skin produce an attack of 'ground-itch,' (also known as 'foot-itch,' 'footsore,' 'dew itch,' 'dew poison,' etc). Thus quite generally believed that the wearing of shoes will prevent ground itch, and this popular belief is correct to a great extent, namely, so far as ground itch on the feet is concerned; wearing shoes will therefore reduce but not eradicate hookworm disease.

"After entering the skin, these young worms make their way to the blood, and pass with the blood through the heart to the lungs. From the lungs the parasites pass up the windpipe, down the gullet, through the stomach, to the small bowels, where they gradually shed their skin two more times, become mature, and then begin their work of injuring the wall of the intestine, of sucking the blood, and of poisoning their victims.'"—(*Stiles.*)

FACTORS FAVORING HOOKWORM DISEASE.

There are certain factors which are especially favorable to the development of these parasites.

"Climate.—Climate has an important influence on these worms. The hookworms which infest man require

a certain amount of warmth in order to develop and on this account they thrive better in the South than in the North. Therefore, generally speaking, this disease is a tropical and sub-tropical malady. In the United States it is a Southern disease, and its occurrence north of Maryland is exceptional. For practical purposes, we may say that the Potomac and the Ohio rivers form about the natural northern limit of its distribution, although some few cases do occur north of these streams.

“Soil.—A loose soil, such as a sandy soil, is much more favorable to the development of the worms than is a hard, compact soil, such as clay.

“Moisture and Shade.—As the drying action of the sun is usually fatal to the worms when on the ground, shaded and moist localities are more favorable to the disease than are unshaded and dry localities.

SOIL POLLUTION.

“It has been stated in the foregoing that the only way by which the hookworms’ eggs escape from the patients is through the stools. As this is also the usual method by which the typhoid germs escape, it is seen that careless disposal of the body waste is favorable to the spread of both of these maladies. The contamination of the ground with disease germs is known as ‘soil pollution,’ and other things being equal, hookworm disease will decrease as soil pollution decreases.

“Exact studies have not as yet been conducted in this country covering any great area in regard to the percentage of negroes infected with hookworm disease as compared with the white race in the same localities, but it is thoroughly established that hookworm disease does occur in the negro as well as in the white, and that in some countries it is especially common in the negro. The comparative statistics thus far available for Georgia and Florida show (in accord with what theory demands) that in our Southern States also hookworm disease is more common in the negroes than in the whites.

“An examination of several hundred farms in North and South Carolina, Georgia, and Alabama shows that

of the farms having no privies, twice as many are occupied by negroes as by whites. This would indicate the negro to be a much more frequent soil polluter, and if he is infected with hookworm disease in equal proportion to the white race, he will, because of this more frequent pollution of the soil, be a greater factor in the spread of the disease to others and its general dissemination throughout the country." (Stiles.)

EFFECTS OF HOOKWORM INFECTION UPON NATIONAL THRIFT.

In the light of recent research the general malaise and seeming indifference in the far South is due to this very intestinal parasite. Generation after generation have battled with a condition in various stages resembling malaria, anemia, etc., with all the symptoms that commonly go with them, which sap the energy and ambition as does tuberculosis.

"In severe infections the patients may be underdeveloped both physically and mentally; they present an anemia (often mistaken for malaria); the skin may be dry and tallow-like; the hair is dry; the shoulder blades are often very prominent and the abdomen is frequently swollen ('pot-belly'); there is usually a tenderness in the pit of the stomach; in about half of the cases there are (or have been) ulcers on the shins; in about 90 per cent. of the cases the patients have had 'ground itch'; the hair in the armpits and on the pubis is frequently very scant. Hookworm disease is the most frequent cause of 'dirt-eating.' It is also the most common cause of anemia found among farm and cotton-mill hands in the South. The patients are weak, and this weakness brings with it an indisposition to work, frequently interpreted as 'laziness.'

"Hookworm disease has a serious effect upon the mind and prevents children from fully and properly assimilating the education which the country is offering them. Hookworm children are apt to study and learn with difficulty. As I visit the country schools and pick out the children suffering from this malady, the teachers

generally exclaim: 'Why, Doctor, you have picked out the most stupid children in the class.' That same mental handicap which this disease places upon the white children seems also to rest upon the negro children, although as already stated, my observations among the negroes are much less extensive than among whites.' (Stiles.)

In regard to the effects of hookworm disease upon the prognosis of other diseases, it is interesting to note that patients suffering from this disease succumb much more readily to all other diseases. Note the following conclusion:

"Indirect effects.—As this infection injures the intestinal wall, brings about an intestinal catarrh, and thus interferes with the digestion, it naturally increases the chances of death in case a person is infected at the same time with some other disease in which good nourishment is important for recovery. As hookworm infection decreases the number of red blood corpuscles, it also increases the chances of death in case a person is infected at the same time with some other disease in which a good supply of oxygen to the tissues is important for recovery. Since good nourishment and proper functioning of the blood are two of the most important factors in recovering from pulmonary tuberculosis (known commonly as consumption), it is to be expected that persons who have both tuberculosis and hookworm disease will stand less chance of recovery than will persons who have consumption but not hookworm disease. In other words, hookworm infection has an indirect effect in increasing the death rate from pulmonary tuberculosis. It has been estimated that it about doubles the chances for death in cases of this disease. Now, even admitting that the direct effects of hookworm infection on the negro are less than on the white, it is a suggestive combination of facts that the tuberculosis death rate is about three times as great in the negro as in the white (namely, 490.6 to 173.5 per 100,000).

"It is evident, therefore, that the eradication of hookworm disease is of great importance to the negro in this fight against tuberculosis.

“Quite recently some very important observations have been made in Manila upon the indirect effects of hookworm infection. When the Americans took charge of Bilibid prison, the death rate was 238 per 1,000 per year; by improving the sanitary conditions this death rate was reduced to about 75 per 1,000; here it remained stationary until it was discovered that a very high percentage of the prisoners were infected with hookworm and other intestinal parasites; then a systematic campaign was inaugurated to expel these worms, and when this was done the death rate fell to 13.5 per 1,000.” (Stiles.)

EFFECTS UPON THE INDIVIDUAL.

As previously stated, the ravages of this disease are such as to undermine the general health, and this is done so insidiously that the patient is not aware of the nature of the attack and is at a loss, as is also his physician in many instances, to know why such a decline in health should manifest itself. In the light of recent investigations, the attention of the laity and profession having been called to this newly-found enemy of the human race, we should have less difficulty in its detection. The disease has also been recognized in cattle, sheep, dogs, goats, cats, foxes, seals, and other animals.

“The eggs (Fig. 16) are laid in the intestinal tract of the patient by the female worms, and are discharged in the feces, either unsegmented or during the early stages of segmentation. They will not develop into adult worms in the intestine, but must first pass out of the body. Thus for every adult hookworm present in the bowels a separate germ must enter the body.

“The egg has a thin shell, which is an indication of a simple life cycle. A short time after escaping in the feces—the time varying according to temperature, moisture, and position in the feces—each egg develops (Fig. 17-27) a minute embryo which is known as a rhabditiform embryo (Fig. 27). This name is given to it because of its

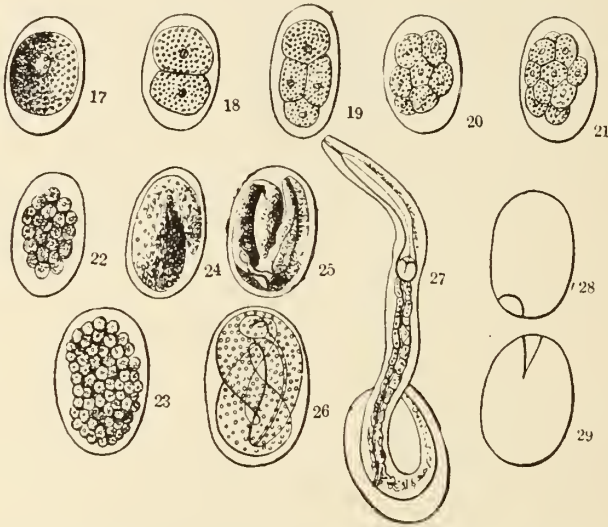
resemblance to worms of the genus *Rhabditis*. Characteristic for this stage is the rhabditiform esophagus, which is entirely different from the esophagus of the adult hookworm. This embryonal esophagus is more or less bottle-shaped, and consists of three parts: an anterior elongated swollen portion, followed by a thin middle portion, the latter being followed by a more or less globular esophageal bulb which possesses a triradiate chitinous armature. This kind of esophagus is common to the early stages of all members of the family *Strongylidae*, and also to numerous other free-living or parasitic nematodes. It is evidently a worm with an esophagus of this sort which was recently found in the earth taken from the New York tunnel excavations, and upon which was based the report that uncinariasis was present.

"The embryo of the hookworm lives in water or moist ground. In its evolution the worm casts its skin four times, thus passing through five stages and changes its structure so as to assume more and more the characters of the adult. During these changes the sexes become differentiated. Some of these changes occur in water or moist ground, and the rest after infection takes place."

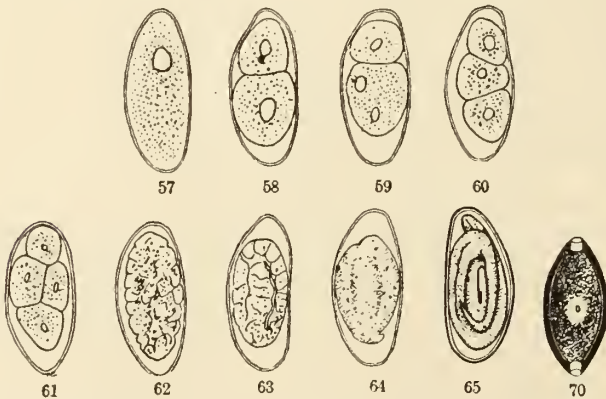
DEVELOPMENT OUTSIDE THE BODY.

"Segmentation.—The eggs develop best in the unaltered fecal matter, especially when this is well-formed; not so well when it is more fluid in character. The addition of water retards the development, and if considerable water is added the eggs perish. Air is necessary to development, and the eggs nearer the surface of the feces segment more rapidly than those in the center. At a temperature of about 27 degrees C. the embryo may form and escape from the shell in twenty-four hours. Lower temperatures retard development so that at 21 or 22 degrees C. the embryo may not escape for from thirty-six to forty hours; 1 degree C. kills eggs in from twenty-four to forty-eight hours, so that freezing weather may be looked upon as disinfecting areas exposed to the cold.

“Embryo.—Upon escaping from the shell, the embryo (Fig. 27) measures 0.3 mm. in length; the anterior end is blunt, the tail long and pointed; 6 points are visible



FIGS 17-29.—Embryology of the Old World hookworm (*Agchylostoma duodenale*) of man; 17-23, segmentation of the egg, 24-26, the embryo; 27, a rhabditiform embryo escaping from its eggshell; 28-29, empty eggshells. Greatly enlarged. (After Peroncito, 1882, p. 342, fig. 142.)



FIGS. 57-64.—Embryology of the common pinworm (*Oxyuris vermicularis*) of man, showing the changes undergone by the egg while in the female worm. (After Leuckart, 1868, page 322, fig. 191.)

FIG. 65.—Embryo of the common pinworm (*Oxyuris vermicularis*) of man, in the egg-shell, as found in fresh feces. (After Leuckart, 1868, p. 328, fig. 196.)

FIG. 70.—Egg of the common whipworm (*Trichuris trichiura*) of man, as found in fresh feces. (After Leuckart, 1868, p. 491, fig. 275.)

around the mouth, and these develop later into the papillae; the buccal cavity is 40 n. long, 1.4 n. in diameter, and possesses a highly refractive chitinous membrane; the anus is 50 n. from the tip of the tail; excretory pore 50 n. from anterior end; 160 n. from anterior end is seen the primordium of the genital system."



FIGS. 30-31.—Two larvae of the Old World hookworm at the end of the second stage "encysted larva", representing the young worms retracted from their skin. (After Perroncello, 1882, p. 359, figs. 148 a-b.)

FIG. 32.—A young hookworm (*Ancylostoma duodenale*) of man, without buccal capsule, four days after infection: a, anus; c.g., cervical gland; g, primordium of genital organs; n.s., nervous system; p, papillae on head; p.e., excretory pore; p.m.c., primary mouth cavity. x about 190 times. (After Looss 1897, p. 919, fig. 1.)

FIG. 33.—Young hookworm (*Ancylostoma duodenale*) in fourth stage, with provisional buccal capsule. c.g., cervical gland; g, primordium of genital organs; n.s., nervous system; p.e., excretory pore. x 105. (After Looss, 1897, p. 921, fig. 4.)

"In this stage the embryo takes food and grows. About the second or third day the embryo casts its first skin, but does not change its organization. After about four or five days it measures 480 u. long by 30 u. in diameter."

"Second stage.—After the fifth day the young worm begins to show signs of a second ecdysis, at the same time undergoing certain papillae changes. Three minute lips, each with two very delicate papillae, appear under the skin at the anterior end; the brightly refringent cuticular lining of the buccal cavity and the chitinous teeth of the esophageal bulb disappear; the esophagus elongates, becomes thinner, and its three divisions become less distinct; the tail becomes slightly shorter and more blunt; the anus lies 90 u. from the tip of the tail. The organism becomes more motile, and contracts from its outer skin, thus forming the stage (Figs. 30-31) which has been described as an 'encystation,' but which in reality is simply a second ecdysis. This is the infecting stage of the hookworm, and ends the development so far as the free life is concerned. No more food is taken. In some cases, however, the worm escapes from the surrounding cast skin. While water is more or less injurious to the egg and the first stage, the infecting "encysted" stage exists well in

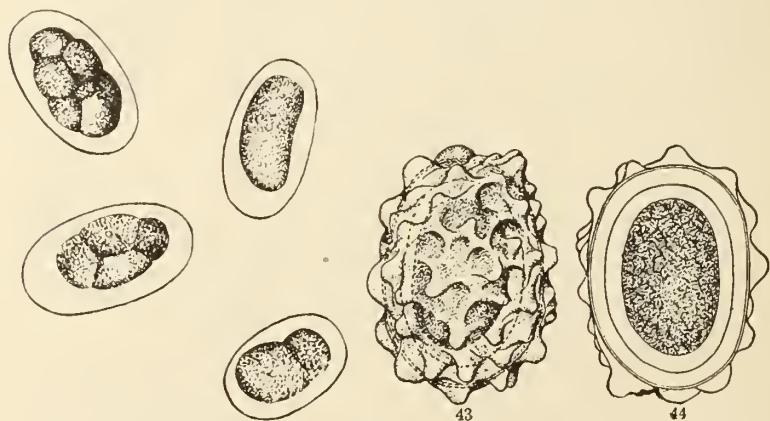


FIG. 16.—Eggs of the Old World hookworms (*Agchylostoma duodenale*), as found in the stools. Greatly enlarged. (After Stiles, 1902b, p. 193, fig. 128.)

FIG. 43.—Egg of the common ascaris (*Ascaris lumbricoides*) of man, as found in feces. Seen with superficial focus. Greatly enlarged. (After Stiles, 1902b, p. 202, fig. 158.)

FIG. 44.—The same, as seen with median focus. Greatly enlarged. (After Stiles, 1902b, p. 202, fig. 159.)

this medium, and Looss succeeded in keeping these worms alive for thirty days in water. Upon drying up, the larvae die, so that the view that the worms exist in dust and are carried around in the air, thus leading to infection, is not well founded.

DEVELOPMENT INSIDE THE BODY.

Upon being swallowed these young worms undergo further ecdyses, changing their internal organization at the same time. We may recognize, with Looss, a third stage, without buccal capsule (Fig. 32); a fourth stage with a provisional buccal capsule (Fig. 35); finally fifth stage, with the definite buccal capsule corresponding to the adult form."

"Third Stage (without buccal capsule (Fig. 32).—During their free life the larvae may attain 0.65 to 0.7 mm. in length by 25 to 27 μ in diameter (at the end of the esophagus). The esophagus is 160 μ long, and its three divisions may still be distinguished. The intestine is composed of about fifteen rows of two cells each."

"Fifteen hours after infection of dogs the worms have passed below the stomach. They now begin to feed, but their growth is comparatively slow. After about five days they begin to show signs of a third ecdysis, which continues until about the seventh day. During this period important changes take place, especially at the anterior end and result in the formation of the provisional buccal capsule."

"Fourth Stage (with provisional buccal capsule, Fig. 35).—This is the fourth larval stage, namely, the stage after the third ecdysis. The worms have not increased notably in length, but certain organs are advanced in development, and the esophagus no longer shows its former three divisions. The worms measure about 0.66 mm. long by 25 μ in diameter, the latter being nearly uniform for a greater part of the length (Fig. 35). The provisional buccal capsule attains 40 μ in diameter, and the mouth is bent slightly dorsal. Two pairs of teeth are visible at the base of the capsule—one pair situated dorsal-

ly, the other ventrally. During this stage the animal increases in length and thickness, the inner organs become better developed, the sexes become differentiated, and the definite buccal capsule forms at the anterior end. With these changes the parasite prepares for its last—namely, a fourth, ecdysis, which occurs about fourteen to fifteen days after infection.”

“Fifth Stage (with definite buccal capsule).—The worm is now about 1.9 (male) to 2 mm. (female) long; 12 to 14 μ . in diameter—very much smaller than the adult form. It is estimated that the parasites require about four to five or six weeks from the time of infection to become mature.” (Stiles.)

In this connection it is exceedingly interesting to note that uncinariasis is self-limited. If re-infection from without can be prevented, a most difficult thing to do where proper sanitation cannot be had, those affected will recover. Those who will continue to live in affected districts are subject to repeated infection, hence a succession of developments keep the subject constantly infected so that they are never free from their depleting presence. On the other hand those who become infected in the hookworm district and remove to a climate not agreeable to the development of the hookworm egg, recover, re-infection being impossible. Stiles, in his report on this subject, says:

“It is already established that for every hookworm which is present in the intestine, a separate embryo must enter the body. In other words, the eggs which the female worm deposits in the intestine will not develop there to mature parasites, but must first be discharged in the feces and undergo certain changes.”

“It is further clear that direct autoinfection, such as taking place in the case of pinworms (*Oxyuris vermicularis*) is excluded. For instance, suppose a child is at stool and soils his fingers with the feces, which contain hookworm eggs, then puts his fingers into his mouth and swallows the eggs; these ova will not develop in the bowel into adult worms.”

“Whether the uncinaria egg, which happened to get

under the fingernails, could reach the larval infecting stage in that place is perhaps an open question. So far, as I am aware, the point has never been studied, but what is already known about this group of parasites does not lead us to believe that such a condition would be essentially common, although it does not seem absolutely impossible.

"With the foregoing premises in mind, it is important to determine how long the parasite in the intestine can live. Regarding the American hookworm, *Uncinaria Americana*, I can present the following data: Of children at the Charleston Orphan Asylum in whom I demonstrated the presence of *Uncinaria Americana* microscopically, it may be noted that eight children had been in the orphan asylum two years or less; four children had been in the asylum between two and three years; two children had been in the asylum six years; one child had been in the asylum six years and seven months."

"I have selected the Charleston Orphan Asylum as best fulfilling the conditions desired to illustrate the point at issue. The refined discipline, the scrupulous cleanliness, and the general hygienic conditions noticed, are such that local infection is practically excluded. It must be admitted that some persons coming in from the country might possibly bring on their shoes a few embryos; but such a theoretical possibility is altogether too remote to explain the fifteen cases found."

"For all practical purposes we are justified in assuming that the hookworms which these fifteen children had in them when I saw them were the same individual worms which were in the children when the latter entered the asylum, and from the data obtained it is clear that hookworms of the species *Uncinaria Americana* are capable of living six years and even six years and seven months."

"A sixteenth child examined showed a clear clinical history of uncinariasis of long standing. Her condition at the time of entering the institution, as described to me by Dr. Huger, and her present complexion, eyes, stunted growth, and inferior mental development leave no practical doubt in my mind regarding the diagnosis. No normal eggs were found in her stools, despite the fact that I

made twenty-five slides. One slide showed a single abnormal egg which had evidently been dried and had clung to the slide after an examination in some other town. I do not know this girl's complete therapeutic history during the past twelve years, but from the absence of eggs in her stools it is necessary to conclude that either the worms had been expelled by the drugs taken or else *Uncinaria Americana* is not able to live twelve years."

"Ashford mentions a case where a boy 'had been the host of the worm for probably ten or fifteen years,' but he does not state that during this time the patient was not exposed to further infection."

"The clinical importance of the length of the life of the parasite is self-evident. Suppose a physician in the North has an anemic patient or a physician in the South has an anemic patient who lives in the city or in a clay district; it is not sufficient to inquire whether he or she has recently been exposed to malaria, but inquiry should extend for eight or more years back in order to develop the fact whether she has during this time visited any tropical or subtropical sand area. If such a fact does develop, uncinariasis is among the probabilities and a microscopic examination of the feces should be made." (Stiles.)

SYMPTOMS.—GROUND ITCH.

The initial symptom is generally conceded to be an affection upon the lower extremities, usually the more tender portions of the feet, as between the toes, due to the entrance of the infectious larvae received from polluted soil. Bentley defines ground-itch as follows:

"Panighae, water itch, water pox, water sores, sore feet of coolies—is an affection of the skin, confined entirely to the lower extremities and probably always associated with the presence of the larval of *Ankylostoma duodenale* in the soil of the affected areas; endemic in Assam and the West Indies and possibly present in other parts of the tropics; characterized by its periodical epidemic appearance in the infected areas, coincident with the onset of the rainy season; with typical lesions consisting in a primary erythema, followed by vesicular

eruption which frequently becomes pustular and in severe cases may result in obstinate ulceration, or even gangrene."

The stage of incubation is from four to six weeks, during which time it is said the infecting larvae are carried into the circulation, thence to the heart and lungs, where, owing to their inability to pass, undergo a stage of development which in time produces a cough, with expectoration of mucus containing the developing larvae, a portion of which is swallowed into the stomach and passes into the intestines where the development is completed. The disease cannot be detected microscopically in the feces until the larvae have developed into parasites sufficiently mature to ovulate—when the eggs may be detected in the feces. The development requires about 71 days, as shown by the following experiment, which also shows that one source of infection is through the medium of the skin.

"Looss' theory of cutaneous infection.—Looss (1901) has shown that if a drop of water containing embryos of *Ancylostoma duodenale* is placed upon the skin, an itching sensation is produced; the worms enter the hair follicles, and from there they seem to bore into the surrounding tissues. Looss further advanced the rather startling opinion that the larvae then reached the intestine, and he recounted observations which gave a certain amount of plausibility to this view. More recently, Looss has performed experiments which, so far as can be judged at present, demonstrate the correctness of his theory. According to Sandwith, Looss smeared on the back of a puppy a mixture of charcoal and feces in which hookworm larvae had been bred. Between nine and ten days afterward the puppy died, and was found to have anemia of most of his organs, and a plentiful supply of young hookworms was found in his jejunum. A second puppy was treated in a similar way and also died on the night between the ninth and tenth days. Upon post-mortem he also showed exactly the same results. A man who offered himself for experiments was also similarly treated on his forearm, and in his case the first hookworm eggs were discovered in his feces on the seventy-first

day. In all three experiments the feces were regularly examined for some weeks prior to the experiments, so that, so far as we can now judge, the results must be accepted, despite their very startling nature. Furthermore, Looss is known as too careful an investigator to permit any foreseen error to creep into his conclusion.

“While not opposing the theory of infection through the skin, but admitting, on the contrary, that Looss has proved his point, I may state that the conditions which I saw in the southern portions of the United States do not indicate that any indirect method of intestinal infection is necessary in order to explain the severe cases of uncinariasis observed. The average boy or girl suffering from this disease is not conspicuous because of personal cleanliness. Bath tubs are not found in their homes, and from physical examinations I made I can testify that not only their hands and fingernails, but their entire bodies are far from a condition unfavorable to parasitism. Sucking the fingers, picking the teeth, or even ending a piece of bread with soiled hands will usually suffice to convey some dirt between the lips. The sand on which the children play must be heavily infested with hookworm larvae and it certainly cannot be an exceptional occurrence that the children unconsciously carry microscopic worms to their mouth. Further, the chances for infection of surface wells, from which the drinking water is taken, are very great in any sandy soil. If, however, cutaneous infection were the rule, I should expect to find all bare-footed children in the infested area suffering not only from ground itch the entire summer, but also from severe infections of hookworm disease.” (Stiles.)

The chief symptoms of this malady are anemia with its accompanying dizziness, palpitations, murmurs, weakness, emaciation, perverted appetite, abdominal pains, diarrhoea or constipation, brownish bloody stools, nausea, and oedema.

The early symptoms are generally referable to the gastro-intestinal tract (aside from ground-itch.) It has been shown in one case after infection that eggs did not appear in stools until at the end of 71 days, (Looss) hence an early diagnosis is impossible, pains and disor-

dered digestion are the only noticeable symptoms. Later on, palor, (noticeable in conjunctiva, nails and lips) and frequent thin pulse, appear.

As the case becomes chronic distinct hypertrophy of the heart and dilatation or valvular insufficiency may be observed.

In the third stage dropsy ensues, anemia becomes marked, pulse small and frequent, cardiac defects with poor compensation or fat degeneration and cyanosis with consequent malnutrition.

ANALYSIS OF SYMPTOMS.

Physical and mental development are much retarded in long standing cases. The body of child age 12 to 14 may have the development due a child of 6 or 8 years, etc., all the way to adult age. The face may be that of a child or adult dwarf.

SKIN.

Pale waxy white or maybe yellow, shriveled, parchment-like or tallow appearance. Wounds in the skin heal very poorly. The expression is stupid and face maybe "Bloated."

The eye according to Stiles affords a fairly constant and accurate method of diagnosis next in value to microscopic finding, namely:

"Eyes.—While looking at the eyelids for anemia, the observer frequently notices that the pupils are dilated or that they dilate readily and that the eyes are dull, dry, and usually of a chalky white. If the patient is directed to stare intently into the observer's eyes, there will be noticed a symptom which it is difficult to describe, but which I have found more constant than almost any other noticed, namely: After a moment, the length of time apparently varying slightly according to the degree of the disease, the pupils dilate and the patient's eyes assume a dull, blank almost stupid, fish-like or cadaveric stare, very similar to that noticed in cases of extreme alcoholic intoxication."

The abdomen in extreme cases becomes much distended due to gas and fluid in the cavity.

Lower extremities emaciated and the ankles and feet become dropsical in far advanced cases.

Feces maybe hard or soft, acid alkaline or neutral. Reddish or brown in color and may contain blood.

Following the gastro-intestinal symptoms the vascular system becomes affected and lastly the nervous system. Anemia in its various stages are found varying with the stage and intensity of the infection. To the casual observer this symptom would attract attention and to the physician acquainted with this disease would be almost diagnostic.

It will not be necessary for us to reproduce here the excellent table prepared by Ashford showing the various blood proportions but suffice it to say that he reports one case of red blood cell as low as 697,776, with hemoglobin at 20 per cent, white cells 7,960, eosinophiles 9 per cent.

Violent cervical pulsations, palpitation or fluttering of the heart and a marked haemic murmur is common in cases with marked anemia.

Cardiac hypertrophy may also develop in advanced cases.

Pulse and temperature varies. The pulse may range from normal to 130-140 per min., is thready and easily compressible if anemia is marked.

Temperature may be subnormal or range upward from 100 degrees to 102 degrees F.

Great physical weakness and emaciation are rather constant symptoms. The general indisposition to work or do anything requiring exertion is the one great factor in uncinariasis which has characterized the slow progress made by whole communities infected with hookworms, and just here considerable figuring has been done in an effort to show the economic importance of hookworm disease.

ECONOMIC IMPORTANCE OF HOOKWORM DISEASE.

“Malaria is admittedly one of the most important diseases when viewed from an economic standpoint. In general, uncinariasis is, in the South, fully as important as malaria, and in some respects it is of even greater importance.”

“Take a given farming area in the sand district with an infection of uncinariasis and assume that 100 farm hands are employed. It is not an exaggeration to say that these 100 people are not doing the work of 80 or 90 average hands. Thus there is a distinct loss of 10 to 20 per cent. in the wages and a corresponding loss in the crop returns. In some places I should estimate the loss at even a higher percentage, say an average of 25 per cent. while in several families which I have examined I should say that uncinariasis is reducing the laboring capacity, hence the productiveness, of the family to as low as 30 to 40 per cent. thus entailing a loss of 60 to 70 per cent.”

Nor are the losses in wages and in the laboring capacity, and the decrease of productiveness of the family, hence of the farm, and finally of the county and State, the only economic considerations involved. Cases are not unknown where families have sold, moved, or destroyed their homes or were about to do so, because of the existence of this disease and because of the belief that it might be due to the locality in which they lived.

“Again, it is almost a common experience to be told by the father of a family that he spends for medicine all he earns, in the hope of ridding his children of this malady. Add to this the physicians’ bills, the loss by death and funeral expenses, etc., and it is seen that this infection is keeping more than one family in absolute poverty.”

Nor should we forget that uncinariasis has its important bearing upon the mental as well as upon the physical and financial development of the poorer white people. As already stated, children infected with this malady are often underdeveloped mentally; frequently they have a reputation in the schools, in the neighborhood, and in their own family, of being “stupid” or “dull” or “backward” in their studies, etc. It has already been mentioned that children suffering with this disease are frequently kept home from school because of their tendency to become edematous when they sit still for any length of time. When we now recall that these conditions coincide especially with the educational period, it should

not seem strange that uncinariasis has a marked influence upon the general intellectual condition of the districts in which it occurs.

“Considering the subject in the light of all I saw on the trip, and taking what I believe to be a conservative view of the subject, I find it exceedingly difficult to escape the conclusion that in uncinariasis caused by *Uncinaria americana*, we have a pathologic basis as one of the most important factors in the inferior mental, physical and financial condition of the poorer classes of the white population of the rural sand and piney wood districts which I visited. This sounds like an extreme statement, but it is based upon extreme facts.

“By this position I do not intend to assert that uncinariasis is the only factor which comes into consideration. The warm climate and the monotonous diet, and probably also the excessive use of tobacco in some cases, are not without influence. Still, with uncinariasis as it exists to-day, these people are suffering from a handicap facts that the growth was most extensive in the mucous, in life which practically removes them from a fair chance in competition. If the uncinariasis is removed they will be placed in a more favorable condition both subjectively and objectively. With the present prevalence of uncinariasis their lack of ambition is perfectly natural; remove the disease and they can develop ambition.

“On the other hand, if we were to select the strongest people in the country and place them in the conditions under which these patients are now living it would be only a generation or two before even a race of athletes would be in the same condition as the persons under discussion.

“The conditions described are familiar to persons who have visited the rural sand districts. But they have existed for so many years that many of us to-day look upon them as natural, hence they do not attract the consideration to which they are entitled.

“In considering the subject of the frequency and economic importance of the disease under discussion, I do not wish to seem to underestimate the prevalence of tuberculosis and of venereal diseases among the negroes or

of malaria among the whites. Further, I recognize the fact that at the present moment an exact mathematical estimate can not be made. Speaking in general terms, however, the facts at my disposal at present seem to indicate that taking the Southern Atlantic States as a whole, *uncinariasis* must be considered as one of the most common and widespread maladies; in frequency it belongs in the general class with malaria, tuberculosis, and gonorrhea.

"In cities and in rural clay districts it is probably less common than any one of these three maladies, for such localities may present local foci of infection for the disease in question, while the local foci of infection with *uncinariasis* are much more limited.

"Among the negroes of the rural sand districts, *uncinariasis* is apparently the most common disease found. Nevertheless, in some sand districts, probably with a clay or other impervious subsoil favorable to the formation of marshes, malaria rivals *uncinariasis* for first place.

"From these qualified statements it will be seen that I do not feel justified in adopting the view advanced by Harris, namely, that *uncinariasis* is "the most common of the severe diseases of the South." (Stiles.)

Appetite may be perverted. "Dirt eating" is said to be a habit of a great number of those affected with *uncinariasis*. Some think it a causative agent; others a result of the disease. Charcoal, chalk, dried mortar, mud, clay, sand, gravel, stone, rotten wood, etc., are selected to satisfy such perverts.

"To summarize: While it would seem decidedly extreme and unwarranted to maintain that dirt eating is necessarily an indication of infection with intestinal worms, still I believe the conclusion is justified that it is undoubtedly a more or less common tendency in such infections, not only in man but also in other animals. It may be classed with the chewing of slate pencils, resin, coffee, sucking of lemons and salt, etc., as an abnormal appetite due to the anemia and abnormal condition of the intestinal tract. Further, for all practical purposes

it is not much of an exaggeration to look upon most, if not all, so-called dirt-eaters of the sand areas of our Southern States as representing severe cases of uncinariasis."

Sandwith states "that 25 per cent. of his patients confessed to eating earth, and he refers to "earth hunger" as sometimes the cause and sometimes the effect of hookworm disease." (Stiles.)

Diarrhea or constipation or both may be present, especially in severe cases. The feces may contain considerable quantity of blood.

DIAGNOSIS.

The symptoms above mentioned in severe cases would lead one to make a diagnosis without great difficulty but in light cases especially occurring or presenting for treatment out of the hookworm zone will require alertness. Indeed the motive which prompted the writer to offer this paper lies solely in this one thought, if I can only inspire a search along this line in those cases of anemia, chlorosis, chronic malaria and general "laziness" presenting themselves for treatment especially those coming from the South, I will be repaid.

"We have but to refer to the transactions of the Medical Association of Georgia for 1903 and 1904 to learn how recent is the discovery of this intestinal parasite in our State (Ga.). Since the articles of Dr. H. F. Harris in 1903 and Dr. Claude A. Smith in 1904, thousands have been treated in Georgia for this malady. While this is true, yet the relative number of physicians who recognize and treat it is indeed small.

"Instead of thousands being treated, tens of thousands should have received treatment.

"Doubtless this condition has existed in Georgia for numbers of years, yet it has been recognized as a disease only for the last six years.

"Reports have come from all South Georgia of its presence in Stewart county, southwest Georgia. I have, since April, 1904 treated 408 cases. If this is true of a hilly section of the southwestern part of the State it must be true of the moist, flat, warm sections."

“Out of 408 treated by me during the past four years, 302 were males—181 whites, blacks, 121. Of the males all had history of repeated attacks of ground itch mazamorra. Of the 106 females, 100 were blacks and 6 whites. 54 gave history of ground-itch-mazamorra. “(Dr. A. G. Fort, Atlanta Journal Record of Medicine, June 1908.)

Now that so many of our own people are spending their winters in Florida and other Gulf States it is not improbable that we will find in them evidences of hookworm, especially in the children. I was told by a physician living in Tampa who only moved there to practice his profession some few years ago, that he has made it a rule to prohibit his own children from going without shoes on account of “ground-itch” so common in children living there. This “ground-itch”, he declares is the initial stage of mecinariasis and that by this precaution has thus far protected his family but that about 90 per cent. of those living there are the subjects of this disease.

Once you see a typical case you cannot forget it. The anemic condition coupled with a blood analysis showing increased eosinophilia would lead to the suspicion of intestinal parasites.

All cases of persistent anemia should have the stools examined for evidence of hookworms.

There are three methods of making this examination.

First by smearing a small portion of the fresh stool upon white blotting paper and after 20 minutes to one hour remove the feces and examine the spot on the paper. If it resembles a blood stain (in 80 per cent. of cases affected with the disease it does) then the case is one of mecinariasis. (Other sources of blood being of course eliminated.)

Second method is the detection of the worm by inspection, it being large enough to see with the unaided eye. The feces should be collected following a dose of thymol aided subsequently by salts. The specimen should be washed several times thoroughly and the sediment examined for the worms. (Three-quarter inch long size of hair pin and bent like a hook at one end.)

Third method by aid of microscope. I will reproduce verbatim this method as described by Stiles, to wit:

“No special technique is necessary. Simply take a small amount of feces, preferably from near the surface, about the size of the head of a large pin; spread this out in a drop of water on an ordinary microscopic slide and cover the preparation with a cover slip. Examine under any moderately high power, as a Zeiss 8 mm., Zeiss C, or a Bausch & Lomb one fourth inch. Look carefully, with not too strong illumination, for an elongate oval egg with thin shell, and with protoplasm either unsegmented or in the early stages of segmentation. The older the feces and the warmer the weather the more advanced will be the segmentation. In case of infection with *Uncinaria Americana* the fully developed embryo may be found within the eggshell. Be cautious not to mistake for the egg of the *Uncinaria* the eggs of *Ascaris lumbricoides*, which have a thick gelatinous, often mammillated covering and an unsegmented protoplasm (Fig. 43-44) or the eggs (Fig. 57 to 65) of *Oxyuris vermicularis*, with a thin asymmetrical shell (one side being almost straight and containing an embryo, or the eggs of whip-worms (*Trichuris trichiura*, more commonly known to physicians as *Trichocephalus dispar*) possessing a smooth, thick shell, apparently perforated at each pole, and an unsegmented protoplasm. (Fig. 70.)

“As a rule, in fecal examination I prefer to use the thick, large, 2 by 3 inch slide, such as is used in examining for trichinae, rather than the ordinary 1 by 3 inch thin ‘English slide.’ The larger slide is not only more steadily and more easily manipulated in case one is working without a mechanical stage, but it is much cleaner to handle.

“In most cases of infection with intestinal worms the simple method just described will suffice for a positive diagnosis. Before giving a negative opinion, however, I invariably make ten preparations or follow a procedure which we may call ‘sedimenting the feces.’ Experience has shown me that in cases of negative diagnosis by the simple method positive diagnosis occasionally results if the feces are washed and ‘sedimented.’

“Method of washing and sedimenting feces.—Take one or two ounces of feces, fresh or dry, mix with water, and place in a large bottle, retort, jar, or any other recep-

tacle; add enough water to make from a pint to two quarts, according to the amount of feces; shake or stir thoroughly and allow to settle; pour off the floating matter and the water down to near the sediment; repeat the washing and settling several time, or as long as any matter will float. The last time this is done use a bottle or graduate with a smaller diameter, and when the material is thoroughly settled examine the fine sediment. It will be found that the eggs have settled more numerouslly in the fine sediments than in the coarse material.

"In case an unusual amount of large coarse material is present in the feces, it is sometimes convenient to pour the entire mass through a sieve, rejecting the portion left in the sieve; or to wash the feces in a sieve, holding the latter under water. As a rule, however, the sieve is not very useful in fecal examinations.

"The centrifuge does not appear to be of any special value in fecal examinations.

"If facilities are not at hand for making a microscopic examination about half an ounce of either perfectly fresh feces, or of rather dry feces, may be placed in a bottle, preferably with a large neck, properly packed in a mailing case, and sent to any professional pathologist or zoologist for examination." (Stiles.)

Giles reports that in his cases it is usually 12 hours after the first dose of thymol before worms pass. One week later careful examinations of the stool should be made and if eggs are found repeat the treatment but not oftener than once a week as thymol is dangerous in such doses too often repeated.

The case must not be dismissed before repeated examinations of feces have been made with negative results. The following report by Sandwith is given as a typical case under the influence of thymol:

"Jan. 14, 1892.—6 A. M., temperature 37.50, pulse 80, respiration 19; patient in his usual state and was given 2 grams of thymol. 7 a. m., temperature 37 degrees, pulse 80, respiration 19; says he has slight nausea, giddiness and colicky pains in the epigastrium. 8 a. m., 2 grams more of thymol given. 9 a. m., temperature 35.5 degrees, pulse 70, respiration 17; great giddiness,

can not stand or walk; very sleepy, and talks like a drunken or a very sleepy man. 12 a. m., symptoms much the same; sweating while asleep. 2 p. m., temperature 37.5 degrees, pulse 75, respiration 18; apparently quite well again. Says he does not mind the thymol, except that it makes him lose consciousness.'

Thymol is soluble in alcohol, hence some advise against its use during administration of thymol but Sandwith, having lost one case immediately following the digestion of thymol thereafter administered thymol to his feeble cases in brandy with no ill effects. He further says, "Thymol is contraindicated in excessive debility, very low temperature, age above 60 and advanced heart disease or any other organ. Boys take it very well in half quantities."

Sandwith states: that of 8 fatal cases treated with thymol, 2 died, he thinks, in consequence of the thymol, eleven and forty-eight hours, respectively, after taking the dose; both of these men had previously had thymol without bad effect, but they were both in a miserable state of exhaustion and debility. He does not think that thymol accelerated the deaths of any of the remaining 6 cases, which occurred five, six, nine, thirteen, fifteen, and nineteen days, respectively, after the last dose of thymol. Three of these cases were over 65 years of age." Stiles also sounds a note of warning in use of thymol as follows:

"Notwithstanding that primarily we are to treat the parasite not the patient, it should be remembered that if too great a quantity of thymol is absorbed by the patient, alarming symptoms and even death may occur. Accordingly, the patient and the patient's family should be carefully warned not to permit the patient under any circumstances to have on the day during which the treatment is Patent medicines should be mentioned in particular, because of the alcohol many of them contain, and even milk and butter should be forbidden. I know of one case of serious thymol poisoning which followed promptly after the patient took a copious drink of milk the day thymol was taken."

Treatment employed by Dr. A. G. Fort after treating 408 cases is as follows:

"The preparations of the patient is essential to satisfactory results. Any means of completely unloading the small intestine is satisfactory—the object being to reach the worm by means of some anthelmintic.

"I usually keep the patient under treatment for 24 hours—allow them to take a glass of milk for dinner—at about 2 p. m., give them 2 to 4 grains calomel, at 4 p. m., repeat the calomel. Allow them to drink water and a cup of coffee or tea for supper. At 9 p. m., give dose of salts or a seidlitz powder. At 5 a. m. take from 15 to 20 grains of betanaphthol in powder followed by 1-2 or 1 glass of water, at 7 repeat the betanaphthol, at 11 a. m. give a seidlitz powder or dose of salts. At 12 m. give milk and allow them to gradually resume their former diet.

The first 150 cases were treated with thymol, but the danger of the drug and its intolerance by many, led me to try something else. My results from betanaphthol have been absolutely satisfactory.

Instructions are always given that no alcoholic stimulants be used or any oils given.

REPORT OF CASE.

History.—Miss K., referred by Dr. J. W. Gnest; age 24, while at school in Washington, D. C., 1899, was sick and confined to bed with anemia for two weeks, but was moved to her home in Alabama, where tonics and reconstitutives with carefully-guarded diet, were given. Improvement was slow and always followed by relapse.

When she came to me, January 26, 1900, it was with a view of relieving the bowel hemorrhage, which was attributed to hemorrhoids. An examination failed to disclose either hemorrhoids, fissure, ulcer, or any local condition which would account for loss of blood per rectum.

Patient was very anemic. The skin and lips and conjunctiva were practically same color. There was a marked mitral murmur. Abdomen enlarged; ankles swollen; constipated bowels; no pain except occasional headache. Menstruation fairly regular and of normal duration. Loss of appetite; gradual loss of weight. Temperature occasionally subnormal, but usually 100 degrees to 102 degrees in afternoon.

Urinalysis.—Specific gravity, 1014; acid reaction. Albumen present.

Blood Analysis.—January 26, 1909. Hemoglobin, 28 per cent. Red cells, 2,800,000; white, 4,000.

Fecal Analysis.—February 1, 1909; bile abundant; fat and blood abundant. Food detritus present. Parasites: *Ameba coli* and *uncinaria*. Ova: *Ameba coli* and *uncinaria*.

Being thus assured that this patient was infested by hookworms, the following treatment was instituted, and all fecal specimens saved and carefully examined by Dr. E. S. Allen, who reported finding great number of hookworms; also hookworm eggs.

Treatment.—Milk and broth diet ordered for three days. Purgative does of calcined magnesia, 9 p.m., followed by high enema at 6 a.m.

9 a.m., thymol, 30 grs., given in capsules.

11 a.m., another 30 gr. dose thymol, and at 12:30 one-half bottle citrate magnesia given and repeated in one hour. The temperature, pulse, respiration and mental condition were not materially disturbed. There was no complaint of dizziness and very little nausea, and soon she was placed upon regular diet. Thymol was repeated in one week following the same plan of diet and medication, and examination of stools failed to show either hookworm or their eggs, and the patient was sent home to convalesce.

Six weeks later, patient returned for another round of thymol to be sure all hookworms had been eliminated. (Careful examination of stools before and after this (the third) round of thymol, failed to detect any evidence of former trouble. The blood analysis at that time, April 1, 1909, was:

Red cells: 3,360,000; white 4,895.

Hemoglobin, 40 per cent.

Recent examination, January 24, 1910, is as follows:

Red cells, 4,000,000; white cells, 6,000.

Hemoglobin, 70 per cent. Eosinophiles, 1½%.

This patient is still occasionally losing blood by rectum, due, I think, to ulceration high up, produced by hookworm many month ago.

THE BEST TESTS FOR ALBUMEN AND SUGAR IN
THE URINE IN LIFE INSURANCE EX-
AMINATIONS FOR THE BUSY
PRACTITIONER.

BY JAMES W. GUEST, M. D.

*Medical Director The Commonwealth Life Insurance Co.,
Louisville, Ky.*

I presume that at least 99 per cent. of Life insurance examiners use the old heat and nitric acid test for detecting albumen in the urine for their insurance work, and at least, ninety per cent. of life insurance examiners are very busy practitioners since all life insurance companies make a special attempt to secure the services of the best qualified physicians in each locality and physicians of maturer years of practice.

Therefore, it is to the interest of all life insurance companies that tests for albumen and sugar should be made by such simple tests that are the most reliable in the hands of a majority of their vast army of field examiners.

I desire in the beginning to place myself on record in proclaiming that the heat and nitric acid test for albumen, as made by fifty per cent. of the examiners in their usual hurry (as general practitioners,) is not wholly reliable. I presume eighty or ninety per cent. pour about one inch of urine in the bottom of the test tube and boil it over an alcoholic-lamp flame and then add two drops of acetic or nitric acid. I will grant that if much albumen is present the test is satisfactory, but if only traces of albumen are present it is almost impossible for the human eye to carry accurately the slight change of coloring the boiled urine undergoes—and especially in the not brilliantly illuminated room of the average doctor's office.

I feel convinced that many cases of albuminuria are placed upon insurance companies by this old time and threadbare method. No fault of the examiner and no criticism to be charged against him, but purely a fault of physical conditions, namely: that the slight change in

the boiled urine (without a close comparison with the urine before boiled) and the inability of the examiner's eye to record accurately this slight change. As a substitute for the busy practitioner, I propose "The Roberts" Test for Albumen.

ROBERTS SOLUTION.

This solution is composed of one part of strong nitric acid and five parts of a saturated solution of magnesium sulphate.

THE TEST.

Pour in the test tube one inch of this solution. Take a straight pipette with three-fourths of an inch of urine in the small end of it with the finger on the top, plunge the pipette to the bottom of the Roberts Solution in the test tube and slowly release the finger from the top. This delicate contact never mixes the two fluids. It is not only the most sensitive and reliable of all contact tests, but the most satisfactory to the examiner. If a reasonably good quantity of Albumen is present, you will notice a thin snowy-white ring moving up the pipette as the heavier acid solution in the tube is raising the urine in the pipette. If only a trace of Albumen is present, from one to two minutes after standing, a *very thin* white line shows at the contact. If the line is broad (from 1-32 to 1-16 of an inch) and not as white as snow and not a single ring, you will know it is the nucleo-albumins, mucin or urates and should not be considered. The latter show a dull and translucent ring like uncooked egg albumen and often in double or triple form.

I am well aware that many believe the Roberts test is too delicate for insurance work and will produce traces of albumen in normal urine. In contradicting this belief I will mention that my associate in life insurance work, Dr. W. F. Blackford, and myself have made and observed over five thousand tests of the Roberts solution for albumen in the urinalysis Laboratory of The Commonwealth Life Insurance Company and are convinced that it is not true.

The heat and nitric acid test is only as reliable as the Roberts test for traces of albumen when made as follows:

“Pour into the test tube the specimen of urine to be examined up to one inch of the top. Boil the upper half-inch, or a little more, and add either acetic or nitric acid—two or three drops. Set the solution aside for five minutes and if a trace of albumen is present, it will invariably show by small irregular ropes of undissolved albumen trickling through the cold urine below.

This is unmistakable and as delicate as any test for albumen made. The objections are, it requires seven or eight times as much urine as the usual method and the average busy examiner will not wait five minutes for the result. Only five or six drops of urine are required for Roberts test.

TESTS FOR SUGAR.

The objections to Fehling's solution (which perhaps ninety per cent. of examiners use for sugar) are, it is not reliable if not freshly made for it decomposes very easily, and how few of us have the time and patience to make it up to a correct formula for each urinalysis. Another objection is that it seems to be a habit with many to boil the Fehling solution after the urine has been added, which is claimed by Saxe “induces the reduction of copper by other substances than sugar and so leads to errors.”

The Haines Test is as reliable as Fehling's and has the advantage of keeping very much longer, it is claimed for it indefinitely. After boiling about one inch of Haines solution in a test tube add eight drops of the urine and if a trace of sugar is present it will show by a brownish-yellow or a yellowish red precipitate forming. If much sugar is present an intense scarlet precipitate will show.

Haines' solution is made by the following process: 30 grains of copper sulphate, 1-2 oz. of distilled water, dissolve and add $1\frac{1}{2}$ oz. of pure (Price's) glycerin and 5 oz. of potassium-hydrate solution and filter.

CANCER OF THE INTESTINE.

BY J. GARLAND SHERRILL, A. M., M. D.

There is no subject that is exciting greater interest among the profession at present than that of cancer. There is no form of cancer which is more difficult to diagnose in the early stages, with the single exception of cancer of the rectum, than that of the intestine. In 1903 I reported two cases of this condition to the Southern Surgical and Gynecological Association and made a rather exhaustive study of the literature up to that time. As much of this material is still of vital interest I shall quote very freely from that paper. A great many more cases have come under my observation since that article was written, yet my opinion is practically the same as held at that time.

The term cancer as here applied, is to be understood as including all forms of malignant neoplasms which involve the intestinal tract, including those growths involving the rectum.

Tumors of the carcinomatous type occur with much greater frequency than do the sarcomata.

A study of the literature for the past twenty years will show that cancer occurs much oftener than we have been led to believe. Hemmeter estimates that 8.4 per cent. of 69,083 autopsies by different observers are carcinomata; of those 1296 involved the intestine.

Nothnagel found in Wiener allgemeinen Krankenhaus, from 1882 to 1893, that of 2125 autopsies upon cancer cases 243 were of the bowel; of 243 sarcomata examined during the same period only 3 involved the intestine. He quotes Müller, of Berne, who found in Berne, of 521 cancers 41 of the intestine, and of 102 sarcomata but 1 of the gut—the ileum.

Smoler, in fifteen years (1883-1898), out of 13,936 autopsies found 13 cases of primary sarcoma of the small intestine, or 1 in 1000 deaths.

These statistics show the great rarity of sarcoma of the intestine. With the exception of the rectum, sarcoma of the large intestine is still more rare than of the small.

Still Libman gives 59 cases of sarcoma of the small intestine; Jopson and White have collected 22 cases of sarcoma of the large intestine.

With reference to the involvement of the different portions of the bowel the reports are not very complete. The writers are all agreed that carcinoma attacks the large bowel with much greater frequency than the small, while sarcoma selects the small intestine and rarely involves the large gut. The appendix is also the seat of both carcinoma and sarcoma, although it occurs very rarely, and is usually not recognized as a primary lesion, except by the microscope after the removal or autopsy.

Men are more subject to carcinoma of the intestine than women. DeBovis gives proportion as 53.9 per cent. males, 46.1 per cent. females; 85 operative cases collected by Cummston and Vanderveer give 63.83 per cent. as the percentages of males. The series of DeBovis is larger, and it is probable that his percentage is more accurate.

Sarcoma, as shown by Jopson and White in 22 cases involving the large bowel, attacks the sexes with about the same frequency; of these, 12 were males and 10 females.

Age. Intestinal carcinoma according to DeBovis' collection is most frequent from forty to sixty years. In 35 cases occurring from eleven to thirty years, 23 were females; in 66 cases in the collection of Cummston and Vanderveer, the average is forty-two years, the youngest being nineteen years and the oldest sixty-seven years; only 8 are under thirty years.

The ages of the sarcoma cases range from two to sixty-six years in Jopson and White's statistics; 7 were under ten years, while only 3 were past forty years.

The variety of carcinoma most frequently met with is, perhaps, the adenocarcinoma, although this point is not covered in any of the reports.

Spheroidal-celled carcinoma, either of the scirrhus or medullary type, is also found. Squamous-celled carcinoma is rarely present except in the rectum, where it springs from the tissues near the anus. Colloid changes are observed in some of the cases.

The sarcomata assume most often the round-celled

type; 50 per cent. of the cases of Jopson and White are of this variety, 45 per cent. were lymphsarcomata, and only 5 per cent., or 1 case, was of the spindle-celled variety.

The adenocarcinomata rarely cause circular occlusion of the intestine, but this is the usual termination in the scirrhus type. Any form of malignant disease, by infiltrating and matting the intestine together, may interfere with the fecal flow.

Two cases of sarcoma are recorded in which a dilatation of the calibre of the intestine occurred. Ewald mentions a case reported by Bessel-Hagen of a boy, aged seven years, in whom, during the course of an extensive sarcomatous infiltration of the jejunum, there had formed an aneurysm-like dilatation of the size of a large man's fist.

Jopson and White mention a similar condition in their case.

Not infrequently does inflammation attack the tissues around a malignant growth; this is especially true in cases in which ulceration has begun. This was a prominent feature in my first case, and from the number of reported cases simulating appendicitis I conclude that it has occurred in some of those as well.

Metastasis from carcinoma of the gut seems to occur most often through the blood, and the liver suffers most frequently from secondary deposits.

Sarcoma, on the other hand, according to Jopson and White, in 68.4 per cent. shows secondary involvement of the mesenteric glands, 26.3 per cent. of the kidney, 10.5 per cent. of the spleen, 15.7 per cent. of the liver, and 10.5 per cent. of other glands.

Tuberculosis is noted as a complication of cancer in a few cases. Invagination is a very frequent accompaniment of this condition in at least 10 per cent. of the reported cases.

The cause of these growths is as little understood as that of cancer in any locality, and it is beyond the scope of this article to enter extensively into the discussion of the various theories offered to account for the abnormal cell growth which results in the production of these neoplasms.

Among the various theories may be mentioned those of Colnheim, Ribbert, and many others based on histogenesis. The questions of diet, heredity, traumatism, and irritation have been well considered.

The trend of recent opinion has been toward the parasitic explanation, the experiments of Schiller, Gaylord, and others leading to this view, while the researches of the Harvard Cancer Commission seem to disprove the claims that a parasite is the causative agent.

Personally I incline to the parasitic as the best explanation so far offered, it having some weighty arguments in its favor; but consider it by no means proven.

The usual point of origin of these growths cannot be established from the present literature upon this subject. A frequent site is the follicles of Lieberkuhn. Undoubtedly the primary carcinomatous growths must spring from the mucous membrane or its glands, and this view is borne out by the reported cases of carcinoma of the appendix, where the disease has been detected at its inception.

The following statements are made in connection with H. D. Rolleston's case in support of this view: "The facts that the growth was most extensive in the mucous coat that it could be traced into the muscular coats, and that here was no growth in the peritoneum, showed that the growth originated in the mucous membrane of the appendix, and that it was not a secondary growth either implanted in the peritoneum or arising as a result from embolism within its substance."

Whipham's case also had its origin in the mucous coat. Jopson and White say that the point of origin in sarcomatous tumor is rather difficult to locate on account of the size of the tumor and the involvement of the bowel when the subject presents itself to the operator or to the pathologist; but from the data of the microscopic examination of the tumors which they have been able to collect, and from the careful examination of their own cases, it seems to them that the mucous is the starting point of these tumors, and from the normal histology of the intestine it may be the origin, if we take it for granted that they have their origin in the lymph follicles.

The symptoms of either form of cancer affecting the intestine are very obscure, especially in the earlier stages, when interference might offer some hope. There may be present early some irregularity of the bowels, but, as a rule, this is not of sufficient moment to demand attention. After a time uneasiness, discomfort, or actual pain in the abdomen appears; owing to the gaseous accumulation this pain is often colicky in character; it is general over the whole abdomen at first, later it may become localized over the seat of the lesion, and is often increased on motion. Although present in the majority of cases, the disease may exist for a long time before any appreciable pain is noticed. This was particularly true of one case which came under my observation, in which the patient had suffered for over twenty years with belching and intestinal discomfort without pain. At operation she was found to have a malignant tumor of the intestine which may have existed for a very long time, or, what is more probable, it may have more recently undergone malignant change.

As the disease progresses tenderness will accompany the pain. If invagination develops as it does in some cases the pain will become acute, and the symptoms of that condition will be added.

Loss of flesh and strength is marked and progressive, greatly out of proportion to the discomfort of the patient even when the appetite and the digestion are good and this tends to accentuate the loss of strength; nausea and vomiting may occur, especially if any tendency to constriction of the intestine is present.

Alternating constipation and diarrhoea are often observed, being probably due to constriction of the gut, with impaction, which after a time excites a diarrhoea. When ulceration takes place the diarrhoea may become continuous and prove very intractable, even exhausting the patient so that death results. Hemorrhage from the intestine occurs infrequently; in fact, less often than we would naturally expect. It is most often seen in rectal cancers.

Many cases give a history resembling recurrent appendicitis, especially when involving the ileo-cæcal coil;

attacks of pain lasting a few days or weeks with tenderness, nausea, perhaps vomiting, tumefaction in some cases, and a slight elevation of temperature, with relief by treatment, followed by a recurrence after a few weeks or months, are quite likely to be considered appendicitis.

My first case presented just such a history, and other writers have alluded to this resemblance, notably Spelissy, who mentions cases reported by Janeway, Muhlsam, Coley, and McCosh; C. N. Dowd reports a case of annular carcinoma of the caecum which followed the usual course of a slowly progressive appendicitis; Eugene Smith also reports a case that had previously been mistaken for appendicitis. In Cummston and Vanderveer's collection 8 cases simulated appendicitis—those of Caird, Mayo (2), Bernays, Lockwood, De Launay, Pilcher, and Vanderveer. Libman reports 5 cases of sarcoma giving such symptoms.

In my former paper I placed tumor as one of the most constant symptoms. This is true only of very late cases, and those involving the rectum. Many cases run to a fatal termination without a palpable tumor ever being discovered, notwithstanding the fact that in nearly every case the mass is present but cannot be detected with our present means of investigation. A rapid loss of flesh results from three causes, the first of which is the disturbance of nutrition due to fecal stasis; the second, the depletion due to ulceration, and absorption of the products of tissue destruction; and third, from the exhaustion resulting from pain and loss of sleep.

As the disease progresses the characteristic cachexia develops and the patient becomes more and more depleted until he dies from exhaustion, unless complete obstruction occurs and makes a rapid end of the case. Sometimes, however, the first indication of the disease will be the development of an intestinal obstruction in a supposedly healthy man, all the usual symptoms being absent.

The duration of the disease is very uncertain; death has occurred in some cases in ten days after the first symptoms were noted, while others have had symptoms for many years.

The prognosis is very grave. Unfortunately, treatment is usually applied so late that the results are not flattering. An early diagnosis and operation will give these unfortunates the best chance; therefore, we should not lose sight of the fact that such conditions present with some degree of frequency.

The diagnosis, owing to the vague symptoms, must be made largely by exclusion. Pain, tenderness, irregular diarrhoea alternating with constipation, dyspeptic symptoms, notably belching, rapid loss of flesh and strength, even with good digestion; anæmia and cachexia, with an abdominal tumor will make the diagnosis. In the absence of tumor or some of the other symptoms an exploration is justifiable, and may often be productive of great good. We would commend most highly the value of an anæsthetic as an aid to making a correct diagnosis.

The age of the patient was formerly considered very important, especially in making a differentiation between sarcoma and carcinoma. We have recently seen 3 cases of the latter under 30 years of age—one 29, one 24, and one 18 years of age, and therefore place less reliance on the diagnostic value of age. When the growth involves the rectum the affection is much more readily made out than when it occurs in other portions of the body; even here it may require considerable care for accurate differentiation. At times it may not be possible to determine whether the condition is due to carcinoma or to syphilis. It is especially so in cases suffering from pain, tenesmus, and bloody stools, with marked emaciation, where malignant disease of the rectum is to be suspected. These same symptoms are found in cases of æcic dysentery, a condition which was formerly considered of tropical origin, but which we now know occurs with some frequency in all parts of the United States. For the establishment of a simple method of making a distinction between these conditions we must acknowledge our indebtedness to Dr. G. S. Hanes, of this city. By the position employed by Dr. Hanes, inversion of the patient with the head toward the floor, buttocks presenting upward, while the legs are extended prone on the table, we are enabled to view the lesion and remove sufficient tissue or dis-

charge for examination. *Amœba coli* can be readily seen when examined upon the warm stage.

The diagnosis between sarcoma and carcinoma is by no means easy and should be based largely upon the rapidity of the growth and the age of the patient. If a conclusion cannot be reached by the usual means exploratory operation is clearly indicated.

The treatment of cancer of the intestine is always operative in the early stages. If operation is refused, or if impossible, then palliative means must be employed. Palliation is practically all that can be employed, as visceral cancer has not responded to the Coley fluid, the Röntgen rays, the injection of the trypsin of Beard, or to the injection of cancrin of Adamkiewicz.

The ideal procedure for the relief of this condition is an extirpation of the portion of the gut involved by the malignant process, and wherever this can be accomplished with safety it is to be advised. Many cases, however, come under our observation so far advanced that extirpation cannot be done; then we can add much to the patient's comfort by performing a colostomy or by means of an enterostomy, isolating the diseased coil. Many patients object to a fecal fistula, and yet the relief obtained is, in our opinion, well worthy of trial. Many of these cases come to the surgeon in an attack of acute obstruction with the intestine loaded with poisonous material and the patient in shock, or very much enfeebled. Under such circumstances it is our opinion that a temporary colostomy should be the operation of choice, enabling the patient to recover from the effects of the obstruction, after which he can be subjected to an operation for the complete removal of the growth, if the operator considers the latter a possibility. We believe that by proceeding in this way the mortality of those operations will be very greatly reduced. My own mortality in operations for cancer of the gut above the rectum is 57 per cent., while the cases of rectal cancer that I have seen will show mortality of 20 per cent. The end results for operations for complete removal of intestinal carcinoma are very encouraging. We, therefore, would urge early interference in any case in which carcinoma of the gut was

suspected, as it is only by such treatment that we can hope to offer a permanent cure for the condition.

CARDIAC ARYTHMIA.

By E. S. ALLEN, M. D.

An irregular heart is not as strong as a regular one, hence must influence longevity.

Vitality depends on the ability of the cardiac muscle to contract with sufficient force and regularity to send blood and oxygen to the tissues. Any weakness at the pumping-station is felt throughout the human machinery. In order for each organ to perform best its part, the heart work must be constant, regular and forcible, for the arterial system merely acts as conduits, and unless tension is regularly kept to a certain degree in the vessels, transudation of plasma to the cells does not take place. Systematic intravascular tension cannot be maintained by the heart that is not working with regular, equally powerful contractions, and unless tension is normal and regularly so, organs must suffer nutritional changes.

The intermittent heart or cardiac arrhythmia is of interest to every medical man and especially the life insurance examiner.

A case of cardiac arrhythmia has recently come under my observation in the insurance field, and having had to pass on its significance, resulted in my looking up some data on this condition.

In order to appreciate the significance of cardiac arrhythmia it is necessary to understand normal cardiac rhythm and how this is interfered with.

Until a few years ago it was thought that the heart, like the skeletal muscles, received their stimulus from some nerve center, and that cardiac contractions were dependent upon nerve stimulation. The musculo-motor nerve center was assumed to exist. The fact that many excised hearts of many high and lower vertebrates under suitable conditions is able to continue its rhythmical action for a considerable time longer was a cogent argument for referring the motor center to the intra-cardial nervous system, instead of looking for it in the central nervous system.

As is well-known, the entire heart muscle does not contract simultaneously during a systole like voluntary muscle; the different parts of the heart, sinus, auricle and ventricle, contract after one another in a definite order. It was, therefore assumed that first the sinus was stimulated into contraction from the intra-cardial nervous system, then the auricle and lastly the ventricle, much in the same order as in the act of swallowing, where the contraction of the various groups of muscles, involving this movement is set up by nerve stimuli occurring in definite sequence.

In the same way, therefore, the cause of regular peristalsis of the heart was referred to the nervous system. Later it was discovered that the pneumogastric and sympathetic had influence on the heart, which necessitated looking for a working point of the inhibitory and accelerator influences of these nerves in the intra-cardial nervous system.

It was thought that the intra-cardial system produced the motor stimuli for the contraction of the heart, and regulated the appropriate contractions in different parts of the organ, and that the cardiac nerves arising in the central nervous system, namely, the pneumogastric and sympathetic, had a positive and negative influence on the intracardial system, and were, therefore, in a position to change the action of the heart according to the necessities of the moment.

If this were the case, the heart muscle would therefore, be a passive instrument on which the nervous system plays. The mistakes in playing would, therefore, be referred to the player—the nervous system, although injurious influences may also affect the instrument itself—the heart muscle.

Through the influences of the physiological researches of the last decade, the theory of the neurogenic origin of the heart's action has been opposed by the view that the source of rhythmical movement is to be found in the heart muscle itself. In other words, the action is of myogenic origin.

The Myogenic theory is that the stimulus that causes the contractions is formed in the heart muscle cells them-

selves, and therefore not rhythmically conducted from the nervous system to them. The autochthonous contraction stimulus is conducted onwards, not through nerve channels, but really through the heart muscle cells, passing normally from the sinuses at the base of the heart through the auricle to the apex, and in this way brings about the progress of the contraction in the various chambers of the organ. The co-operation of these fundamental properties of the heart cells, their behavior during and after systole, produces the rhythmical movement of the heart.

The regulation of the heart and its adaptation to the various requirements of the body is provided for reflexly through the nerves, that is, through a positive and negative influence of the nervous system on the above-mentioned properties of the heart muscle. The myogenic theory, therefore, regards the heart as an automatic organ, the action of which is adapted, through influences of the nerves, to suit external circumstances..

Wenckebach compares the heart to a regularly trotting horse which moves of itself and knows how to surmount obstacles itself, but yet is guided by the rider as circumstances require.

Physiological studies have demonstrated that the contraction of the heart is initiated by periodic stimulation of the fibres situated at the entrance of the great veins into the auricles. The stimulation is propagated from these over the whole heart and causes its parts to contract in a regular sequence.

According to Engleman, the heart's action may be affected in various ways. There may be variations, not only in the regular initiation of stimuli, but in the ability of the heart to respond to these stimuli. Furthermore, the propagation of stimuli over the heart, as well as the contraction of the muscle may be abnormally increased or diminished. The causes of disturbance of cardiac rate and rhythm may be either in the muscle itself or in its nervous connections. Thus we see how complicated are the conditions governing the rate and rhythm of the heart and how difficult it must be to interpret the many clinical variations.

Our knowledge of the disturbances of the rhythm of the heart is naturally limited by our knowledge of the origin and nature of cardiac rhythm.

Cardiac arrhythmias are classified according to which of the fundamental properties of the heart muscle is mainly affected; whether the rhythm of the muscle is interfered with, or whether the muscle is more or less excitable, or its contractility is interfered with, or the conductivity involved.

Arrhythmia due to extra systoles—

Here the rhythm is interfered with by the interposition of extra abnormal contractions. Physiological studies have shown that the heart may be made to contract prematurely if an extra stimulus, mechanical or electrical, be applied either to a ventricle or an auricle, the resulting extra contraction is called an extra systole.

The occurrence of extra systoles in man seems to be favored by a high arterial pressure, by myocardial disease, and by drugs which increase the irritability of the muscles. The extra systolic pulse is weaker than the preceding or normal one; partly because the shortness of the preceding diastole does not allow sufficient time for the ventricle to become completely filled with blood, and partly because the extra stimulus affects the ventricle while it is still in a somewhat refractory stage, following the normal contraction. So, the earlier the extra systole occurs after the normal contraction, the smaller will be the resulting pulse. The extra systole may not produce a pulse at all in which case there is an intermission in the regular pulse rhythm and an absence of the second aortic sound.

The extra systole is almost invariably followed by a compensatory pause, owing to an omission of the regular contraction that was due immediately after the extra contraction.

Krehl states that extra systoles which are caused by increased arterial tension usually involve the ventricle alone; whereas, those due to myocardial disease may begin either in the auricle or ventricle.

ARRHYTHMIA DUE TO DISTURBED CONDUCTIVITY OF THE HEART MUSCLE.

The cardiac contraction wave spreads from the mouths of the great veins to the auricles, and from these to the ventricles. By observing the jugular pulse produced by auricular contraction, and the carotid pulse produced by ventricular contraction, the interval between the two is about two-tenths of a second, but when the conduction of the muscular wave is poor, it may be prolonged to four-tenths of a second. If the conductivity be still further reduced the impulse may fail altogether to reach the ventricle, an auricular and no ventricular beat is observed. When the next auricular wave reaches the connection with the ventricle, it passes over with unusual rapidity on account of the rest given the fibres from the previous missed beat. Only occasional impulses may fail to pass the auricular ventricular junction; again, every other impulse may pass; this is known as partial heart block. Finally, none at all pass, in which case we get complete heart block. In such cases the ventricles take on their own rhythm, which is about thirty per minute, and maintain this absolutely independent of the auricle. This is known as Adam-Stokes Disease, which is attributed to a disease of the auriculo-ventricular connecting fibres known as the bundle of His.

ARRHYTHMIA DUE TO LESIONS OF CONTRACTILITY.

The regularity of the heart is affected by a diminished contractile power, a strong and weak contraction follow one another alternately and with regularity. The explanation is that the weakened ventricle gets tired after a strong contraction and follows it with a weak contraction after which it becomes rested and contracts strongly.

ARRHYTHMIA DUE TO LOSS OF EXCITABILITY OF THE VENTRICLE:

Wenkebach has inferred a loss of excitability on the part of the ventricle when the latter failed to respond at times to impulses that apparently crossed the auriculo-ventricular junction within the normal time. The clinical significance of the condition is not understood.

The significance of the cardiac arrhythmia is dependent, to a great extent, upon its causes. Disturbances of

the cardiac rhythm frequently result from disease of the myocardium, inflammatory processes, infarcts, narrowing of the coronary arteries, parenchymatous degeneration of the heart muscle, cardiac anemia, whether from a narrowed artery or impoverished blood; toxins, antitoxins or from inflammatory or infectious diseases.

IRRITATION OF THE PNEUMOGASTRIC; REFLEX IRRITATION ACTING ON THE MUSCULATURE OF THE GREAT VEINS.

It is known that to touch the endocardium results in an arrhythmia; so, the irritation from endocarditis might be responsible for the arrhythmia in that disease.

Certain poisons, such as digitalis, caffeine, tobacco, retained metabolic toxins, toxins of typhoid and diphtheria, produce irregular hearts.

It is stated by some authorities that an irregular heart unaccompanied by valve lesions, is of no significance so far as longevity is concerned, but since we understand the physiology of cardiac arrhythmia and how the intermittency is produced, we are inclined to believe that cardiac arrhythmia is a more grave condition than we have formerly considered it, and I believe it a good rule to follow in life insurance examinations that whenever cardiac irregularity is recognized, a very thorough examination should be made as to the type of arrhythmia that exists, and if possible ascertain its cause.

There is no doubt but what a great many so-called slow pulses, are the result of a strong cardiac contraction, followed by a weaker one, not strong enough to transmit the blood wave to the radial pulse and frequently too weak to be heard over the cardiac region. This is a condition, however, that any careful examiner will not fail to recognize. I believe that any irregular heart has a weaker functional capacity than a regular one, and that as a result of the irregularity, intravascular tension cannot be maintained with regularity; hence, nutritional changes must take place throughout parenchymatous structures and, in time, nature will manifest the result of this irregular tension.

Should the heart have such extra work to do as it does in pneumonia or any prolonged infectious disease,

where at best, the regular heart can barely stem the tide, we will find that the intermittent heart has failed to meet the demands of nature.

ACUTE BRONCHITIS.

PHILIP F. BARBOUR, M. D.

Professor of Diseases of Children

University of Louisville, Medical Department.

At this season of the year, acute bronchitis is one of the diseases which the physician will encounter very frequently. It is not of very serious import excepting at the extremes of life. In infants it is always accompanied by danger of fatality. In deciding the cause of this fatality, we must take into account several facts. There are several reasons why bronchitis should be dangerous. It is caused by a number of different organisms; it is a complication or a sequelae of a number of other diseases; it is rarely a primary disease. But the fact that there are a number of different organisms would lead us to infer that there would be no one toxemia but that the character of the toxemia would vary in each case. In fact toxemia is not a factor in bronchitis in the ordinary acceptation of that term. The diseases in which bronchitis may be a complication have their own mortality which is intensified by the bronchitis. What then is the danger inherent in the bronchitis? It is not the toxemia; it is not the temperature, for the fever is rarely above 101, and lasts only a few days; it is not heart strain or weakness. The danger in bronchitis is mechanical, and it is to the mechanical aspects of this disease that attention will be directed.

Acute bronchitis is an inflammation of the mucous membrane of the bronchial tubes. Like other inflammations it is characterized by pain, heat, redness, swelling and loss of function. Of these the mechanical effects of the swelling are of the most interest to us. Swelling in the bronchial tubes on account of their histological peculiarities must result in reducing the size of the lumen of the bronchus. If a sufficient number of these tubes are inflamed and if the character of the inflammation is

sufficiently severe, it will be very difficult for the child to secure through the bronchial tube the amount of air or oxygen necessary to maintain life. Such cases are usually described under the name of acute suffocative bronchitis. There are two elements to be considered in these cases; one is the congested, swollen condition of the mucous membrane, which mechanically obtrudes upon the lumen of the bronchus. The second factor is the spasm of the involuntary muscular fibres that surround the smaller bronchi which adds to the difficulty of securing air space in the tube. When the bronchitis has progressed sufficiently deeply into the lung to involve the bronchioles, there will always be found spots of atelectasis which show that the bronchus has been obliterated by swelling and spasm. All such cases require very energetic and appropriate treatment if you would save the life of the child.

To relieve the spasm and the congestion there are a number of measures which may be instituted such as the application of heat and the administration of remedies which will allay the spasm of the bronchioles and which will prevent the extension of the inflammation along the mucous membrane by continuity of tissue. There are several ways by which the heat may be applied, such as the use of flax-seed poultices with mustard, one to twenty, or a glycerinized paste, or mustard paste. The advantage of a hot flax-seed poultice is particularly in the action of the heat in relieving spasm and drawing the blood to the surface by which the congestion of the bronchi is mechanically relieved. One must be careful in very young children not to apply such poultices over the anterior surface of the chest as the weight of the poultice may seriously interfere with the respiratory act of the child. All the benefits may be obtained by allowing the child to lie upon the poultice with the rest of the chest protected by cotton batting. Mustard paste gives relief to the congestion but is not quite so helpful in allaying the spasm of the bronchioles. Heat may be applied internally, in a sense, by the use of inhalations of steam, impregnated with various medicines, such as creosote, turpentine, or benzoin. The child cannot be left con-

stantly under the influence, or in the atmosphere of steam on account of its depressent action. It is helpful in allaying the spasm of the muscles of the bronchioles. Medicinally we may employ nitro-glycerine or some form of nitrite for the purpose also of stopping the spasm.

It is necessary as outlined above not only to relieve the spasm but also to stop as far as possible the extension of the inflammation. For this there are several drugs which, used in proper doses and with a thorough understanding of their therapy, will abort the inflammatory process. Aconite, veratrum, and antimony tartrate are each reliable, but the alkaloids of aconite and veratrum are so much more certain and reliable and easily controlled that they are far the best agents to be used for this purpose. When the depressent action of aconite and veratrum is counteracted by digitalis or strychnine, they have proven perfectly safe agents.

The conditions above described obtain in the early stages. When the inflammation has progressed to the pouring out of the secretion it is well to prescribe such agents as will render that secretion less viscid. The alkalies, such as the salts of potash and ammonia will be found particularly valuable in such cases though ipecac and allied drugs are not to be despised. The danger to the child during the second stage is largely mechanical. The pouring out of a thick mucous secretion into the small bronchi mechanically obstructs the passage of air to the small bronchioles. If the inflammation is very general, this interference becomes alarming and dyspnoea and cyanosis become noticeable. Here the indications are to render the mucus as fluid as possible in order that the lungs may be able to free themselves and thus maintain respiration.

The exhibition of opium in such cases is frequently followed by the most untoward symptoms because the mucus must be expectorated, otherwise it will remain in the tubes to obstruct inspiration. Opium deadens the response of the nerves to the stimulus to cough and thus favors the retention of the mucus in the lungs. In very young children the danger from this source is very great, and the careful clinician will be on the alert for it. Much

better than opium in cases where there is much cough accompanied by a very free secretion of mucus is the administration of belladonna which lessens the pain of the cough, and diminishes its frequency, while deepening the respiration and what is more important lessening the amount of mucus secreted and exfoliated from the mucous membrane of the bronchial tubes.

The bowels should be cleared of the mucus which has been swallowed and which tends to ferment the food products in the intestinal canal and add to the respiratory difficulty. The diet should be of an easily digestible character and not fermentable. In this day when so much is attributed to fresh air, one's position on that subject needs to be stated. One cannot deny the advantage to the patient of having pure fresh air, but drafts are especially dangerous as aggravating the bronchitis. There are certain children whose mucous membrane are so sensitive to cold air that there is a tendency to the formation of extra mucus whenever they are in a cold room. Such cases need a course of hardening by judicious exposure.

Some people suffer from a freer discharge of mucus from the nose when they are in a cold wind. In babies whose mucous membranes are necessarily sensitive, the mechanical effect of any increase of the mucus which they have to expectorate, must be considered; it is not the time to begin a hardening process when the baby is sick. Therefore one must feel that caution should be exercised to secure an atmospheric environment which at least eliminates the danger of increasing the mucus to the point of endangering the life of the baby.

ELECTROTHERAPY IN DERMATOLOGY.

By DR. M. RAVITCH, LOUISVILLE, KY.

In view of the interest recently revived in electrical rays, reports are again coming in regarding their value in a good many diseases, particularly those pertaining to the skin. Some one, I have forgotten who it was, expressed that the X-ray, as a diagnostic and therapeutic agent, was the most beautiful gift which physics has ever made to the science of medicine.

In dermatology, X-ray and high frequency current have been one of the most important therapeutic factors. Its utilization has been rapid and extensive, and, though much has been accomplished, its field of usefulness is probably far from the limit of its possibilities.

It is to be regretted that its use has fallen into the hands of very incompetent men, who do not know the first principle of the physics of electricity and its physiological action.

Although the therapy of X-ray and high frequency current have been sufficiently established, yet there remains much of the physics of the question which is obscure and awaits further investigation and elucidation.

The great need of the physician is to know more of therapeutics; yet a sovereign remedy such as electricity has been woefully neglected. If the physicians of to-day would criticise less and study more, electricity would not be classes in the charlatan's armamentarium and its administrator designated a quack. If men, such as Sabanraud, Freund, Piffard, Coley, Allen, Crocker, and a good many others have found X-ray and high frequency therapy very useful and almost specific in a good many cutaneous affections, why should we not keep on investigating until we know its exact uses and limitations. All experienced X-ray workers at present come to the conclusion that the method by which the X-ray does its work is probably by cell destruction, which leads to the degeneration of the elastic and connective tissue, while high frequency currents cause cell stimulation and are almost static in their effect.

Of all the reports yet collected as to the relative value of X-ray and high frequency currents, the report of 800 dermatological cases treated with X-ray and high frequency currents at the Mount Sinai Hospital by Drs. Lustgarten and Stern, is the most reliable and accomplished. This report was read before the International Dermatological Congress and was classified as follows:

Epithelioma: Results accomplished depend upon proper choice of cases. Most favorable are those situated on the surface of the epidermis. The best results are achieved by a combination of X-ray and high frequency

spark. In deep-seated carcinoma there is very little to be expected. It is more encouraging in the various forms of sarcoma.

Acne Vulgaris: The results are very gratifying, while in *Acne Rosea* the results are not as good.

Psoriasis and Eczema: The value of X-ray is well established.

Lichen Planus, Lichen Chronicus, and Lichenoid Eczema: Though conditions are more stubborn, but generally yield to X-ray treatment.

Lupus Vulgaris: Those effecting the mucous membranes is best and most successfully treated with X-ray, while other parts of the skin are better treated with high frequency spark.

Lupus Erythematosus: Yields nicely to high frequency spark, but are apt to recur.

Verrucae and Naevi: Some types easily destroyed with the high frequency spark.

Keloid: To expect permanent results we must persist with X-ray until a fair degree of Dermatitis is produced.

Folliculitis Decalvans: Yields well to X-ray treatment.

Pruritis is greatly benefitted by either current.

Rhinoscleroma: A cure can be accomplished, if treatment is persisted.

Micosis Fungoides: The X-ray is the only remedy that is really beneficial.

Sycosis, Favus and Trichophytosis Capitis: The X-ray treatment is a remedy par excellence.

Hypertrichosis: This condition can be cured with X-ray, but requires very careful technique.

Hyperidrosis: This condition may be benefitted by X-ray, but after a long series of treatments.

It is to be hoped that such reports will be conformed to by others. In my own practice, the most brilliant results were accomplished in *Acne, Acne Rosacea, Mycosis Fungoides, Keloids, Tubercular Adenitis, and varicose ulcers*. Simple goitres were cured, while cystic goitres were greatly benefitted by X-ray.

THE INTERNATIONAL AMERICAN CONGRESS OF MEDICINE AND HYGIENE.

BUENOS AYRES, ARGENTINE REPUBLIC,
MAY 25TH, 1910.

The International American Congress of Medicine and Hygiene of 1910, on commemoration of the first centenary of the May revolution of 1810, under the patronage of His Excellency, the President of the Argentine Republic, will be held May 25th in Buenos Ayres, Argentine Republic.

In order to facilitate the contribution of papers and exhibits from the United States, there has been appointed by the President of the Congress, Dr. Elisea Canton, and the Minister of the Argentine Republic at Washington, a committee of propaganda of which Dr. Charles H. Frazier (Philadelphia, Pa.) is Chairman and Dr. Alfred Reginald Allen (Philadelphia, Pa.) is Secretary.

The Congress has been divided into nine sections, each section being represented in the United States by its chairman in this Committee of Propaganda as follows:

Section 1—Biological and Fundamental Matters.

Dr. W. H. Howell, Chairman, Baltimore, Md.

Section 2—Medicine and its Clinics,

Dr. George Dock, Chairman, New Orleans, La.

Section 3—Surgery and its Clinics,

Dr. John M. T. Finney, Chairman, Baltimore, Md.

Section 4—Public Hygiene,

Dr. Alexander C. Abbott, Chairman, Philadelphia, Pa.

Section 5—Pharmacy and Chemistry,

Dr. David L. Edsall, Chairman, Philadelphia, Pa.

Section 6—Sanitary Technology.

Dr. W. P. Mason, Chairman, Troy, N. Y.

Section 7—Veterinary Police,

Dr. Samuel H. Gilliland, Chairman, Marietta, Pa.

Section 8—Dental Pathology,

Dr. George V. I. Brown, Chairman, Milwaukee, Wis.

Section 9—Exhibition of Hygiene.

Dr. Alexander C. Abbott, Chairman, Philadelphia, Pa.

It will not be necessary for one contributing a paper or exhibit to the Congress to be present in person. Arrangements

will be made to have contributions suitably presented in the absence of the author.

The official languages of the Congress will be Spanish and English.

Members of the following professions are eligible to present papers or exhibits: Medicine, Pharmacy, Chemistry, Dentistry, Veterinary Medicine, Engineering and Architecture.

Papers may be sent direct to the Chairman of the particular section for which they are intended, or to Dr. Alfred Reginald Allen, Secretary, 111 South 21st Street, Philadelphia, Pa.

BOOK REVIEWS.

AN EPTOTOME OF DISEASES OF WOMEN. By Charles Gardner Child, Jr., M.D. (Yale), Clinical Professor of Gynecology, New York Polyclinic Medical School and Hospital. 12mo, 210 pages, with 101 engravings. Cloth, \$1.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909. (Lea's Series of Medical Epitomes. Edited by Victor C. Pedersen, M.D., New York.)

This book is very satisfactory in every way. As a compend it is not expected to enter into the subject of Gynecology in an exhaustive manner. The author has endeavored to be brief, and in so doing has carefully discriminated as to what is of major and minor importance. Information has been obtained from the standard text-books and the result of which we have presented to us this subject in excellent and concise form. A list of questions has been added for those who desire to use it as a quiz-compend.

A COMPEND OF HISTOLOGY. Henry Erdmann Radasch, M.S., M.D. Associate in Histology and Embryology in the Jefferson Medical College. 98 illustrations. P. Blackiston Sons & Co., Philadelphia. Price \$1.00.

This volume belongs to that series of well-known quiz-compend published by Blackiston, which have long since made their reputation with the profession and are used universally as a text-book by students in all colleges. It is a marvel how much information has been condensed in these various compends. They

have real merit. They are the broadest of the brief, the choicest of the best, and the most convenient of any compend with which we are familiar.

MATERIA MEDICA FOR NURSES. John E. Groff, Ph.G., Apothecary in the Rhode Island Hospital; Fifth Revised Edition, rearranged by Lucy G. Ayres. Sections on Therapeutics, rewritten by H. C. Pitts, M.D. Price \$1.25. P. Blackiston & Sons Co., 1909.

In rewriting and rearranging this book, the whole text has been carefully revised. As a text-book, as well as one for ready reference, it is invaluable to nurses. An exceedingly useful amount of material is embraced in this work. An appendix has been added in the issuing of the fifth edition which makes it more particularly fitted for graduate nurses.

THE MEDICAL COMPLICATIONS, ACCIDENTS AND SEQUELS OF TYPHOID FEVER AND THE OTHER EXANTHEMATA. By H. A. Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College and Physician to the Jefferson College Hospital, Philadelphia, and E. J. G. Beardsley, M.D., L.R.C.P., Philadelphia. With a special chapter on the Mental Disturbances Following Typhoid Fever, by F. X. Dercum, M.D., Professor of Nervous Diseases in the Jefferson Medical College. Second Edition, thoroughly revised and much enlarged. Octavo, 398 pages, with 26 engravings and 2 plates. Cloth, \$3.25, net. Lea & Febiger, Philadelphia and New York, 1909.

Typhoid fever is such a treacherous disease and manifests itself in so many aberrant forms that any literature which adds to the diagnostic knowledge and therapeutic skill must certainly be appreciated by the physician. It is with the anomalous types of the disease with which this book particularly deals. The authors have cleverly succeeded in collecting cases from private and hospital practice of the rudimentary forms, and have lucidly described the wide variations of such varieties of the disease. The new edition explains what recent bacteriological methods have added to our knowledge of its many complications and serious sequelae which are likewise freely discussed. It seems as if the subject has been most thoroughly and carefully presented

from every viewpoint. Withal, it is a most useful book. A new feature is the consideration of that group of diseases known as the exanthemata which makes the book more valuable and interesting for study and diagnostic purposes.

DIAGNOSTIC METHODS. Chemical, Bacteriological and Microscopical. R. Ralph W. Webster, M.D., Ph.D. Assistant Professor of Pharmacological Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago. 37 colored plates and 164 other illustrations. Price, \$6.00. P. Blackiston's Sons & Co., Philadelphia, Pa., 1909.

One is really surprised at the great concentrated value represented in this work. The collection and unification in such a fascinatingly interesting manner makes this volume exceptionally strong. It is a miracle of knowledge in miniature. The author has placed special interpretation upon laboratory methods and their application to clinical medicine. The thoroughness with which the basic principles of the various methods are worked out so as to obviate all obstacles for the inexperienced as well as the most scientific, is one of the most commending features of the book.

PRIMER OF SANITATION. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia. World Book Co., Yonkers-on-Hudson, N. Y. 1909.

This little book tells the story of the principles of sanitation in a very systematic and thorough manner. It is well written, suitable for school use, and the most important facts in regard to germ diseases and their prevention is related in elementary form.

PRINCIPLES OF HYGIENE. The New (3d) Edition. For Students, Physicians and Health Officers. By D. H. Bergey, M.D., Assistant Professor of Bacteriology, University of Pennsylvania. Third revised edition. Octavo of 555 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.00 net.

To one interested in modern scientific hygienic practices, they can not fail to be interested in the general soundness and accuracy of conclusions which the author has reached. The book is valuable to students of medicine, health officers, and architects. The author does not aim to cover the entire field of hygiene, that which is of minor importance has been relegated to give place to the consideration of those conditions which at the present time are looked upon as most seriously detrimental to public health. The book is one of the most comprehensive ever written upon this subject.

TEXT-BOOK OF MEDICAL AND PHARMACEUTICAL CHEMISTRY. By Elias H. Bartley, B.S., M.D., Ph.G., Professor of Chemistry, Toxicology and Pediatrics in Long Island College Hospital; Late Dean and Professor of Organic Chemistry in the Brooklyn College of Pharmacy; Late Consulting Chemist to the Department of Health of the City of Brooklyn; Late President of the Board of Pharmacy of the County of Kings; Member of the American Phar. Ass'n; of the American Chem. Society; Fellow of the American Ass'n for the Advancement of Science, Etc. Seventh Revised Edition. With 90 illustrations. Price \$3.00. P. Blackiston's Sons & Co., Philadelphia, Pa.

Bartley, in his seventh revised edition of Medical and Pharmaceutical Chemistry has not only kept up his reputation as author of a college text-book, but has increased it. We admire his keeping the book down to size rather than injecting a lot of recent ideas that will not practically teach the student the clinical application of Chemistry. One of the most useful chapters in the book touches lightly on pharmaceutical chemistry; we say lightly, for he has not encroached upon a field that is taken up by text-books of physiology and of necessity belonging to that branch. In that chapter though he has touched on the clinical application of Chemistry thereby affording the student of this book the opportunity of knowing why he studied Chemistry. Another feature strong in this book since its first publication is the glossary at the end of the text. Its usefulness is not limited to the student, and we would not mind seeing Bartley's Chemistry on any doctor's shelf.

NERVOUS DISEASES. Organic and Functional. M. Allen Starr, M.D., Professor of Neurology, College of Physicians and Surgeons; the Medical Department of Columbia University in the City of New York. Third Edition. Illustrated with 300 engravings in the text and 29 plates in colors and monochromes. 1909. Lea & Febiger, Philadelphia, Pa.

In looking over Starr's Organic and Functional Nervous Diseases, we find that there is every reason for its third edition. One thing we have always liked is the style of putting forth the subject in this work, viz., that on structure and function clinical manifestations and treatment are based. This work veritably is exhaustive and beyond its reference value, reads with an attractive style that marks few books on medical subjects. The newer aspects of the books are many. The chapters on Beri-Beri, Casson's Disease and Syphilis of the Nervous System have been rewritten. So much new work on cerebral compression has caused much to be said of more recent operations. The chapters on functional diseases are materially enlarged. To sympathetic nervous affections are added chapters on Anglo, Neurotic Oedema and Symmetrical Gangrene. This is essentially a work for every general practitioner, and from the recent contributions to the surgery of the Nervous System is so well handled in this volume we commend it to those surgeons doing progressive work. The volume is well illustrated with many plates—29 in colors and monochromes—and 300 engravings. The paper, type and binding are the best.

TEXT-BOOK OF MODERN MATERIA MEDICA AND THERAPEUTICS. By A. A. Stevens, M.D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College, Philadelphia. Fifth Revised Edition. Octavo of 675 pages. Philadelphia and London: W. B. Saunders Company, 1909. Cloth \$3.50 net.

We are particularly pleased with the arrangement Dr. Stevens has made in his modern Materia Medica and Therapeutics. The former part of the book is devoted to Materia Medica and the latter part is applied to Therapeutics. This is just the sort of book on applied medicine that a Doctor will insist on its being constantly within his reach and that in leisure moments will be

c

read with absorbing interest. Although we have reviewed it from the standpoint of a practitioner, we call it a good students' text-book for it will be the latter's main counsel at his graduation.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, and kindred branches; with new and elaborate tables and many handsome illustrations. Fifth Revised Edition. By W. A. Newman Dorland, M.D. Large octavo of 876 pages, with 2000 new terms. Philadelphia and London. W. B. Saunders Company, 1909. Flexible leather, \$4.50 net; indexed, \$5.00 net.

The American Illustrated Medical Dictionary, by W. A. Newman Dorland, is colossal in its contents, being replete with tables, illustrations, charts, etc., besides its words and their meanings. Indeed we have seen medical students, in their sometimes necessary economy, mainly depend on this book, its usefulness in a medical way being being infinite. Specifically, we would say of Dorland's Dictionary, that all doctors should avail themselves of this book, as it bears the marks of the best.

THE REMEDIAL VALUE OF IRON.

Amid all the doubt that modern skepticism and therapeutic nihilism have aroused in the professional mind, in regard to the medicinal or drug treatment of disease, we have yet to hear any question as to the distinct value of iron in anemic, chlorotic and generally devitalized conditions. This metal is, indeed, the physician's mainstay in such cases, and cannot successfully be omitted or replaced. There does exist, however, considerable difference of opinion as to the method of administering iron and as to the most generally eligible preparation of same. The tincture of the olden times, prepared from iron filings, has in these later days, been superseded by the less irritant and more tolerable preparations introduced into modern pharmacy. Among such products none has seemed to be so generally acceptable and promptly assimilable as the organo-plastic form represented by Pepto-Mangan (Gude). The ferruginous element in this preparation exists as a true peptonate, in combination with organic

EXCEPTIONAL PALATABILITY

IS ONE OF THE
DISTINCTIVE
FEATURES OF

HYDROLEINE

(AN EMULSION OF COD-LIVER OIL)

The chief factors concerned in the exceptional palatability of Hydroleine are (a) the purity and freshness of the oil, (b) the masking of that raw taste which even the purest cod-liver oil retains till perfectly emulsified, (c) its delicate flavoring, and (d) its freedom from medicinal admixtures. It has a smooth, distinctive, nutty flavor that children like. Its small globules are a guaranty of its marked digestibility. Sold by druggists.

THE CHARLES N. CRITTENTON CO.
115 Fulton St., New York

Sample with literature sent *gratis* to any physician on request

manganese, iron's side-partner in reconstructive blood therapy. It is palatable, readily tolerable, quickly absorbable and assimilable and entirely free from irritant or constipating effect. Pepto-Mangan (Gude) rapidly restores vigor to the circulating fluid and because of its blandness and ready tolerability is especially valuable in pediatric practice.

RELIEF OF ACUTE NASAL CATARRHS.

Few minor diseased conditions are provocative of such inconvenience as an acute nasal catarrh, and an agent that will check it and bring about a cure is worthy the widest use. Douches of *Katharmon* in diluted strength will accomplish this end by reducing the turgescence of the mucosa and checking the inflammatory process.

In all forms of blood dyscrasia—as indicated by skin disorders, bad healing power and general debility—Ethol often proves effective when other treatment fails. It quickly raises the antitoxic and so-called opsonic power of the blood, increases the resisting power of the tissues and thus minimizes the dangers of bacterial attack. Healing processes are stimulated, and the whole economy is materially improved in its vital details.

VALUABLE CONCLUSIONS.

The case of G. H. is reported by J. S. Norwell, M. B., C. M., B. Sc. of Edinburgh, Scotland as follows:—"Suffered from headaches which proceeded from errors in diet. I arranged a table of diet for him which proved beneficial. I prescribed antikamnia tablets and with the very best results. His headaches were kept under until his changed dietary had time to effect more permanent relief. This year he went to Bisley. In case he should be troubled there with his *bete noir*, I gave him some antikamnia tablets as a stand-by. On his return he told me he had no headache, but that he had used all the tablets. Headaches, it seems, are no uncommon accompaniments of camp fire. He has dispensed the antikamnia tablets to some of his suffering companions, and they (the tablets) "his the bull's eye every time." Who knows but that they had something to do with the phenomenal scoring at the last meeting!

One could multiply similar cases, but this may suffice to illustrate the effects of antikamnia tablets in the treatment of headaches, and to warrant the following conclusions I have come to with regard to their use:

(a.) They are a specific for almost any kind of headache.


(b.) They act with startling rapidity.

(c.) The dosage is small.

(d.) The unpleasant after-effects so commonly attendant on the use of many of the other analgesics are entirely absent.

(e.) They can therefore be safely put into the hands of patients for use without personal supervision.

Another point worth noting is that they can be very easily taken, being practically tasteless.



K & O DOUCHE, FOR THE APPLICATION OF
GLYCO-THYMOLINE TO THE NASAL CAVITIES

GLYCO= THYMOLINE

FOR

CATARRHAL CONDITIONS

Nasal, Throat
Intestinal
Stomach, Rectal
and Utero-Vaginal

KRESS & OWEN COMPANY

210 FULTON STREET NEW YORK

THE American Practitioner and News.

"NEC TESTI PENSÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the fewest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way, and we want downright facts at present more than anything else." — RUSKIN.

VOLUME XLIV.

MARCH, 1910.

NUMBER 3.

Announcement.

The Publishers announce the
employment of

DR. LEE KAHN

as Editor-in-Chief. Dr. Kahn
will assume charge
of the next
issue.

Original Communications.

PRURITUS FROM A MEDICAL AND SURGICAL STANDPOINT.

BY M. L. RAVITCH, M.D.,
LOUISVILLE, KY.

(Read before the Louisville Clinical Society.)

Pruritus is a functional disease of the skin characterized solely by causation of itching with or unaccompanied by the organic changes of the skin. Itching is a sensation which is not closely definable in words, and which, produced by an irritation of the papilla of the skin, but differing from the sensation of burning, tickling or pain, causes an irresistible inclination to scratch. It exists in all degrees of severity and frequently proves a source of great distress. It occurs in all stages of life. The itching may be constant or intermittent, and being invariably worse at night. It may be local or general, but seldom involves large portions of the surface at once.

Pruritus without any eruption is not strictly a skin disease. In this short paper we will not dwell strictly on the itching due to skin diseases, but to some other constitutional causes. Should I attempt to enumerate all the causes of pruritus I would have to write a voluminous essay, and not wishing to punish you, I will just make a few passing remarks. It is right to mention that often no satisfactory explanation can be obtained, as the cause which produced it may have disappeared, while the itching continues, owing to cutaneous nerves or filaments having, so to speak, contracted a bad habit. Occasionally the disease is mental rather than physical.

The diagnosis of Pruritus is easy—in fact, the patient furnishes us with it; but the diagnosis of the cause which is much more important, is often obscure. I will attempt to give a few diseases that are likely connected with pruritus. Often have we seen intense Pruritus in genito-urinary and uterine diseases. I recall a case of intense

itching in the vagina, which the general practitioner passed off as an insignificant nervous trouble. When the patient was advised by me to consult a gynecologist, the latter discovered uterine polypi. After the polypi were removed, the pruritus entirely disappeared.

In another case, a male patient complained of intense itching about the genitals. A cancerous prostate was the cause. I recollect a case of intense itching over the abdominal area; at times accompanied by urticaria. The patient was a man about 50 years of age. The cause looked suspicious. Pain began to appear quite often. Cancer of the gut was the real cause. A young man came to my office complaining of intense itching over the body above the umbilicus. His skin was yellowish and very dry. Some places looked like scleroderma. Urine did not reveal anything abnormal. Calculi in the gall bladder was the cause. When the calculi were removed by an operation, pruritus disappeared, and the skin became normal. The dry patches (scleroderma) have also disappeared. I could recite many cases of the same nature, but that would take up too much of your time.

It is needless to call your attention to pruritus due to jaundice, constipation and ptomaine poisoning. You are all acquainted with such cases. Morphinism is another cause of pruritus. I remember a patient came to my office for an intense itching all over the body. At times erythematous nodules were seen on the upper and lower extremities. The case was rather puzzling. As the patient was a prominent lady, very intelligent and ambitious, I did not suspect anything at the beginning. I took the disease to be obscure in its etiology. Later I noticed pinhead punctata over a few nodules, and my suspicion was aroused at once. I knew I had to deal with a clever morphine subject. Sound advice and talks did not help the patient; she quit coming to my office; a year afterwards she committed suicide.

Pruritus of the external genital organs in a woman is of a sympathetic or of local origin. It is produced by an irritation of the uterus, bladder, rectum or vagina; or by acid discharges, aphthae, or other causes of local irritation of the vagina and vulva.

In early part of pregnancy, pruritus is very prominent; sometimes it has been the cause of miscarriage. Gynecologists will tell you that cirrhosis of the uterus often caused pruritus of the vulva. So does glycosuria. Varicose veins of the rectum and the vagina give rise to pruritus of the vulva. Varicose veins of the labia cause pruritus of the vagina, pubes and rectum. Pruritus is also occasioned by local causes: About the rectum—by ascarides, piles and fissures; about the upper lip—by nasal discharges; about the ear—by disease of the middle ear, which later terminates in eczema. Intestinal parasites, diabetes, cystitis, leucorrhea and gonorrhea, and Bright's disease are all well known factors in the causation of pruritus.

Pruritus is the result of various atrophic changes which take place in the senile skin. It is due to wasting and ultimate disappearance of the papillae.

Pruritus hiemalis, or aestatis, is a neurosis and, according to Diakonoff, consists primarily in abnormal irritation of the cutaneous sensory nerves, which, in the reflex way through sympathetic ganglia and vaso-motor nerves, brings about a localized paralytic dilatation of the cutaneous capillaries with a subsequent disturbance in the nutrition of the sensory nerves. As I said before, the disease is often mental rather than physical. It is usually found, then, in cases associated with hypochondriasis, and such cases are rebellious to medical measures.

So you can see that pruritus, like headache, is often a very important symptom and is the result of many diseases.

TUBERCULOUS MENINGITIS.

BY J. W. FITCH, JR., M.D.

(*Read before Louisville Society of Medicine, Feb., 1910.*)

Tuberculous meningitis is an inflammation of the membranes of the brain due to the action of the tubercle bacillus.

Etiology.—The direct cause is the tubercle bacillus. The indirect or predisposing causes are often very obscure. It is usually secondary to a primary infection in some other part of the body. Heredity is a predisposing cause, as in all other forms of tuberculous infection. The badly nourished and physically ill-developed children of consumptive parents are the most susceptible. Age seems to play an important part, as the disease is most frequent between the ages of two and seven years. It is comparatively a rare disease in adult life. It seems to occur more frequently in the male than in the female. Impure air, unwholesome food and exposure combined with a predisposition may bring on the disease. Sometimes there is a history of a blow on the head, from which the beginning of the trouble dates. Oftentimes an unred otitis media may be the starting point.

Morbid Anatomy.—The tubercle usually occurs at the base of the brain. Depositions of grayish white granules of gelatinous appearance are distributed along the vessels of the pia mater, resulting in an inflammation and an exudation of lymph, with the thickening of the membranes. The ventricles are distended by a clear or a milk-like or a bloody serum.

Symptoms.—For the sake of convenience of study the symptoms are divided into prodromal, irritative, pressure and paralysis.

Prodromal Symptoms.—Often after an illness, a gradual failing of health, or a fall, the child loses his appetite, soon begins to lose flesh and strength, and becomes irritable and peevish. The bowels are slightly constipated, or diarrhea and constipation may alternate. The child tires easily; at night sleep is restless and disturbed by dreams. Slight headache may be present. Some slight dizziness is often complained of. The child's whole character often seems to change. There may be swelling of the abdomen. These symptoms may continue from one week to one month or more. They gradually become worse, until the irritative symptoms appear.

Irritative Symptoms.—Headache, nausea and vomiting, and fever are the common initial symptoms. The vomiting is the most constant symptom. It is very irreg-

ular, but seems to be brought on by food or drink or change of position, and is often not preceded by nausea or accompanied by severe retching. The intense headache is one of the most distressing symptoms of the disease. It is aggravated by light, noises and sudden movement, and may become so severe that the child may cry out suddenly or scream continuously. The fever is moderate, irregular, remittent in type. It varies from 99° F. in the morning to 102° F. or 103° F. in the evening. The pulse is at first rapid, becoming slow and irregular. The respiration is at first normal, but after three or four days becomes irregular and sighing. Constipation is a constant symptom and gradually becomes more obstinate and rebellious to treatment. The tongue is usually clean at first, but later becomes heavily coated. Sleep is restless and disturbed by starting or waking in alarm. Mild delirium is often present, especially in the early morning. Muscular twitchings, spasmodic contractions and rigidity giving rise to opisthotonos are often noted. The pupils are contracted and light is painful to the eyes. Strabismus and double vision are often noted during the latter part of this stage. The child gradually becomes more drowsy and may lie for hours in deep sleep with the eyelids half open, and the eyeballs rolled up. There is often grinding of the teeth and clawing at the ears or nose. The duration of the stage of irritation is from one to two weeks and is followed by the stage of pressure.

Stage of Pressure.—During this stage there may be paroxysms of pain and irritability which are succeeded by periods of extreme drowsiness sometimes amounting to stupor, from which the child is aroused with difficulty. This usually progresses until patient remains in a state of complete insensibility. He lies on one side, with knees drawn up and head retracted on account of the rigidity of the muscles of the back of the neck. The pulse becomes slow, compressible, and irregular or intermittent. The respiration becomes irregular and often assumes the Cheyne-Stokes type. The temperature usually becomes lower and may become subnormal. The constipation becomes still more obstinate. The vomiting usually becomes less or ceases altogether. The abdomen assumes

the "boat-shape" and is very characteristic. The pupils are dilated, usually unequally. Small congested spots may appear on the face, but quickly fade away. If the fingernail be drawn across the abdomen, a bright red line appears slowly, and after remaining for a few minutes gradually fades away. There are involuntary actions of the bladder and bowels. There may be periodic convulsions.

Stage of Paralysis.—From twenty-four to forty-eight hours before death, the patient becomes completely comatose. The constipation may be replaced by involuntary liquid stools. The sunken abdomen becomes distended with gas. The pulse becomes very rapid and feeble and the temperature rises very high, which may be followed by an abrupt fall just before death. Death may occur during a convulsion, or may occur during deep coma, which is the more common occurrence.

Diagnosis.—Simple meningitis has a sharper onset, more severe headache, higher temperature, and more delirium.

Gastro-intestinal disturbances may resemble the onset very closely and in many cases one must wait for development of symptoms.

In typhoid fever the headache is usually not so severe. The temperature curve is higher and more regular. There is usually diarrhea and distension of the abdomen. Vomiting usually is not a marked symptom.

Chronic malaria may simulate it very closely. Finding the plasmodium malariae will often clear up the diagnosis.

Lumbar puncture is a valuable aid, as is also Von Pirquet's test.

Treatment.—The treatment is symptomatic and palliative. The patient should be in bed in a quiet, darkened room. An initial calomel purge should be given. The head should be shaved and an ice cap applied and warmth to the extremities. The temperature if high should be reduced by sponging. Convulsions should be controlled by the bromides, chloral, and chloroform. Lumbar puncture has been practiced, but the results obtained do not seem to justify the practice. Inunction of blue ointment

to the abdomen seems to accomplish good in some cases. Potassium iodide seems to have accomplished the most good of any drug used. It should be pushed to the utmost. As much as 900 grains has been given daily in one case, and was followed by recovery.

Prognosis is bad. There have been a few recoveries reported, but the diagnosis has been questioned.

SODIUM BENZOATE.

DR. R. ALEXANDER BATE,

Answer to Circular from Kentucky Agricultural Experiment Station, Food and Drug Division, requesting opinion of physicians as to the use of Benzoic Acid and Benzoate of Soda in Foods.

Sodium Benzoate— $\text{NaC}_7\text{H}_5\text{O}_2 + \text{H}_2\text{O}$ —is a white amorphous, granular or crystalline powder; odorless; sweetish, astringent taste; soluble 1.6 W. 43 a. at 25° C.; 1.3 boiling water, 12 boil a (U. S. P.).

Dose, from gr. v. to gr. xxx (Potter); gr. xxx. to gr. cxx. (Sajous' Anal. Cyc. of Prac. Med.). Average dose, gr. xv. (U. S. P.).

Sodium benzoate may be obtained by neutralizing benzoic acid with a solution of carbonate of sodium, and evaporating to dryness. (Br.—U. S. P.)

Benzoic acid is made by oxidation of toluene with nitric acid, which is the most common form. It is derived also from the different benzoin, Asiatic and American, from urine, etc. (Sajous' Anal. Cyc. of Pract. Med.)

Toluene or toluol is methyl benzene, derived from coal tar. Thus synthetic and true benzoate of sodium are on the market.

The synthetic, more easily obtained, cheaper and possibly more antiseptic, is naturally most used. Very limited personal investigation has shown the synthetic preparations to be invariably used as the food preservative, and most often is the preparation found on the druggist's shelf. Some pharmacists, however, dispense the "true" benzoate.

The physiologic action of sodium benzoate has been differently described by various pharmacologists; as well as by those concerned in "the food and drug law" experiments. It is believed some of these discrepancies may have arisen because of the use of the synthetic by some, and the "true" by others, although no mention of either is made in the circular of the Kentucky Agricultural Experiment Station. The inference therefore may be wrong—nevertheless it seems possible Dr. Wiley may have used the synthetic benzoate of sodium as obtained without specifications upon the open market. While the "Referee Board of Consulting Experts" may have been supplied with the purest obtainable.

The physiologic action of genuine benzoate of sodium is similar to that of true benzoic acid. Both are antiseptic, antipyretic, analgesic, diaphoretic and diuretic.

Potter states a solution of benzoic acid of 1 in 1000 prevents the development of bacteria, and one of 4 in 1000 is fatal to most of them. Bucholtz asserts that Benzoate of Sodium is more antizymotic than the acid. When taken internally, in therapeutic doses, both cause epigastric heat, a moderate amount of gastric irritation with resultant nausea and vomiting (Cajons). Both increase the pulse rate, and stimulate the action of the skin and kidneys; the salivary glands and the bronchial mucous membrane (Potter).

Both are eliminated chiefly by the kidneys partly as benzoic acid, but chiefly as hippuric acid (Sajons).

Benzoic acid meets glycine and combines with it to form hippuric acid and water— $C_7H_6O_2 + C_2H_5NO_2 = C_9H_9NO_3 + H_2O$. (Stewart.)

Benzoic acid appears not to be converted into hippuric acid until it reaches the kidneys, as glycine is not found in the blood or tissues (Stewart).

Sodium benzoate is more readily absorbed and more continuous in its action than benzoic acid.

Shoemaker states sodium benzoate has a stimulating effect upon the liver, and quotes Carl Virchow's experiments showing that it increases nitrogenous elimination from the kidneys. Both benzoic acid and benzoate of sodium are accredited with having produced erythemat-

ous and papular eruptions, also urticaria, in some. Both are locally antiseptic and stimulant to bladder and urethra. Both render the urine acid and promote the solubility of vesical calculi, whether composed of urate or phosphate (Shoemaker).

Sodium benzoate is the most used of any of the salts of benzoic acid. Therapeutically there are no unfavorable reports concerning its use. It has been used with great satisfaction in place of the salicylates; being quite as antiseptic, equally antipyretic and less irritant and less depressant, though probably not so analgesic. It is slower, yet more lasting in effect. Its use has been favorably reported in mumps, measles, scarlet fever, typhoid fever, diphtheria, whooping cough and septic diseases. It is even accredited with more or less prophylactic properties in these diseases just mentioned.

In both acute and chronic rheumatism it has been of service where the salicylates failed. Its power to increase nitrogenous elimination, its antiseptic and antipyretic power, together with its solvent action upon urates and phosphates explain its applicability to both forms of rheumatism.

In follicular tonsillitis, benzoate of soda is almost specific. Shortening the disease from two to five days, to twelve or thirty-six hours (Boisliniere). In pharyngitis and laryngitis it favorably modifies pain, dysphagia, inflammation of the mucous membranes. It often cures the disease in two or three days (Sajous).

It has been lauded in the treatment of Bright's Disease, especially of the chronic interstitial variety.

In uric acid gravel the insoluble urates are converted into soluble hippurate by the benzoate of sodium.

Some alleviation has resulted from its inhalation in phthisis. In urticaria it has proven beneficial. The field of sodium benzoate is widening daily, and its freedom from toxicity makes it much safer than the carbolates, the salicylates and others of its congeners.

The physiologic action of the synthetic sodium benzoate is similar to the true benzoate. Yet some notable differences are known and others are to be inferred.

Very probably the synthetic is more antiseptic than

the gemine. It is certainly much more irritant to the mucous membranes, and much more toxic in its effect. Very probably it is quite as analgesic if not more so than the true. All coal tar products are observed to bring about changes in the haemoglobin, methaemaglobin being formed, anaemia results, the secretions become altered. The coal tar products are cardiac depressants and stop the eliminations of toxins by the kidneys. Very probably this synthetic benzoate has a similar action to Benzol of B. P. which contains from 20 to 30 per cent. of toluene (from which synthetic benzoic acid is derived).

Shoemaker says cases of acute or chronic poisoning are observed in consequence of nitro benzol. Its usual manifestations are sleepiness, headache, languor and a severe form of anaemia. There is loss of weight, loss of appetite, nausea, vomiting, and the urine becomes darkened and contains anilin. The body temperature is raised, the extremities are easily chilled, the muscles waste and there is extreme hyperaesthesia. The sexual appetite is weakened or lost. The reflexes are enfeebled, retinitis occasionally is observed. Pulse is feeble and thready, arterial tension is low; the blood corpuscles are altered, and the blood is chocolate colored or black. No antidote is known.

Now in regard to some of the observations of the Referee Board—"The increase of indican in the urine," as they invariably observed it, might be more easily accounted for if the synthetic benzoate had been used. Since the coal tar derivatives produce methaemaglobin in the blood which in turn always produces a "blackness" in the urine. Anilin also is present in the urine after coal tar derivatives have been ingested. Methylene blue in minute quantities has been found under these circumstances.

If a true benzoate was used by the Referee Board, it is more difficult to account for the indicannuria. Vegetable indican is a glucoside, and different from the indoxyl sulphates usual in urine.

May not the metabolism of proteids be affected chemically by the benzoate similar to bacterial modification? That intestinal bacteria might be increased by the ben-

zoate or gastric irritation produce indicanuria however do not appear quite clear, although suggested by the Board.

Dr. Wiley states: "There is a tendency to retain benzoic acid in the body for a notable length of time—much more marked in the case of benzoate of soda than in the case of benzoic acid." This is to be expected, since the sodium salt is more slowly excreted, and as long as present, may be combined with glycine to form hippuric acid. From a therapeutic standpoint perhaps the profession agree as to the favorable action of sodium benzoate.

In regard to the second question of Chairman Scovell: The use of benzoate of soda in milk or other foods for infants or invalids in any proportion?

Even the Referee Board showed constant changes, different from the physiologic, were effected by the few months' use of benzoate of soda, as a food preservative, in three young men of good health and actively engaged. Apparently the benzoate of sodium used as a food preservative is invariably the synthetic salt.

It is known that alcohol is dangerous for workers in anilin. Alcohol apparently dissolves the nitro bodies and makes them more easily absorbed. A poisoning results characterized by hemaglobinemic degeneration, fragmentation, methemaglobin, etc., and glycuronic acid in the urine, ematiation, soporosity, muscular tremor and optic neuritis.

Milk or other food can be kept in cold storage or elsewhere until unwholesome and then preserved with benzoate of sodium. Obviously, personal opinion is against the use in either milk or food, or elsewhere, of the synthetic salt—against the use of the true benzoate to preserve unwholesome food stuffs. As to the use of the true salt in small quantities as a preservative in condiments, or articles of food not regularly eaten, and chiefly consumed by the healthy, perhaps not so strong an objection should be raised. Where alcoholic beverages are taken with the meals, the synthetic salt is doubly dangerous.

All, I believe, would oppose the use of any preservative in any baby food, other than sterilization and "physiologic constituents" (sodium chloride sugar, etc.).

The Referee Board's conclusion seems hasty, and not sustained by their own reports.

Dr. Wiley's work seems one too great to lightly modify. Certainly he has been the greatest boon to the unprotected consumer. To even future development of the individual and consequently the Nation.

Certainly in Kentucky if it is to be a question between coal tar or alcohol, we will abide by the selection of a type—not excelled in history—the Kentucky Colonel.

Selected Articles.

INJURIES TO THE PUERPERAL UTERUS.

BY EDWIN B. CRAGIN, M. D., NEW YORK.

The goal sought in every parturition is the delivery of a living, uninjured child without such lesion or infection of the parturient canal as will cause either morbidity during the puerperium or subsequent discomfort to the patient.

It is well known that any lesion of the parturient canal predisposes to infection and so long as the uterus is the most important portion of this canal as far as infection is concerned, the importance of the subject before us is clearly seen. For purposes of discussion injuries to the puerperal uterus will be considered under two heads.

(a) INTRAPARTUM INJURIES AND (b) POSTPARTUM INJURIES.

Furthermore, for completeness of the study, some license will be taken and the term "puerperal" made retroactive so as to include the emptying of the pregnant uterus during the early months of gestation, whether this abortion was intentional for good medical reasons, or whether the intent was criminal. Although injuries to the uterus at term are of chief importance and will receive the most of our attention, injuries during an induced abortion are common enough to deserve our consideration. The writer will only incidentally refer to perforations of the pregnant uterus in the early months by long stiff instruments as sounds, catheters, knitting needles, umbrella wires, etc., in the hands of the abortionist, or the patient herself driven to desperation in the desire to empty the uterus of the products of her conception.

Instances of these injuries are too familiar in the experience of members of this society who are connected with large hospital services. While the treatment of these injuries might well lead to fruitful discussion, lack of time compels the writer to pass on with the mere statement that the danger resulting from these injuries depends chiefly upon three factors:

1. The amount of infection carried to the uterus and peritoneum by the instrument.
2. The question of intestinal injury.
3. The amount of laceration and hemorrhage.

While many cases of uterine perforation with clean instruments have recovered without operation or other treatment save rest, the list of those who have lost their lives from infection of the peritoneum either from the dirty perforating instrument or from the escape of the contents of the perforated intestine, is far too large in spite of skilled surgical intervention. Of more interest to the conscientious obstetrician and gynecologist are the injuries which sometimes occur in the hands of men as skilled as we are, when emptying a uterus in the early months of pregnancy in order to save the life of the would-be mother. The two injuries most common under these circumstances are 1. extensive laceration of the cervix during instrumental dilatation, and 2. perforation of the uterus by curette or ovum forceps in cases where the cervix is too rigid to allow of sufficient dilatation for the introduction of the finger and the use of it as the extracting instrument. Those who have seen the nonpregnant cervix which was being gradually and carefully dilated with a glove-stretcher dilator suddenly split to, or above the vaginal junction without apparent excuse, can understand how such an accident may occasionally occur in a case of rigid or cicatricial cervix associated with early pregnancy. The writer knows of only one way to avoid this accident and that is to prepare the cervix for dilatation by a preliminary softening. This may be accomplished by an intracervical and vaginal gauze tamponade, or by the introduction into the cervical canal of a small elastic bag.

The perforation of the clean pregnant uterine wall by the curette or ovum forceps is thought by some men the result of carelessness and impossible in their hands. Yet this injury has occurred in the hands of so many good men that its possibility must always be considered. The uterine wall in pregnancy is softened; it may be thin and relaxed and in these conditions,

without extreme care, perforation is easy. The procedure which seems to me most likely to avoid this accident is to have the fundus of the uterus steadied by the hand of an assistant or nurse while the operator introduces his curette or ovum forceps (the writer prefers for this purpose a fenestrated sponge holder) as carefully as he would use a delicate probe until the fundus is reached and identified, applying what little force is used solely in the outward stroke. This same rule of delicate introduction should be followed in each application of the instrument.

One other possible injury to the uterus at this period is the continuance of the curettage beyond the limit set by nature in her discharge of the products of conception. It must be remembered that the ovum and decidua are all that should be removed and that deeper scraping, going through the endometrium and removing portions of the muscular structure is likely to lead to subsequent trouble, perhaps hyperinvolution, amenorrhea and sterility. The surest way of avoiding this fault in technic is for the operator, especially one of limited experience, to use instruments which although stiff, are blunt.

Advancing now to the completion of gestation, intrapartum injuries will once more be first considered, and again lacerations of the cervix during artificial dilatation stand out predominantly. It is unusual before the birth of the child to have serious hemorrhage resulting from laceration in manual dilatation of a rigid cervix, yet the writer has seen such a case in consultation where a most skillful obstetrician had simply stretched with the fingers of one hand a cervix which had long resisted nature's efforts at dilatation. The hemorrhage had almost exsanguinated the patient and her life was saved with difficulty.

The hemorrhage in this case occurred many hours before the birth of the head and may well impress the lesson of care needed in dilatation even when the cervix is thinned by labor and the canal tamponed from above by the vertex. The two conditions which are most often associated with intrapartum injury of the uterus, are eclampsia and placenta previa with the accouchement force which is so often employed in their treatment.

In eclampsia emptying of the uterus had been so uniformly followed by improvement in the condition of the woman, that the dictum is generally accepted, *given an eclamptic seizure proceed to empty the uterus.*

The writer believes that this dictum should be modified by the

addition clause "as soon as is consistent with the condition of the cervix."

If the cervix is short, soft and in the condition usually called dilatable, it can generally be dilated by accouchement force with relatively little laceration, if the dilatation is done carefully, gradually, and without too much haste. On the other hand, if the accouchement force and delivery are performed in a case with long rigid cervix without previous preparation, the cervix after delivery will often show deep lacerations extending to the vaginal junction, perhaps even into the lower uterine segment. The writer remembers at least one case in which in the hands of a members of the Interne Staff this laceration extended completely through the lower uterine segment into the peritoneal cavity, and this in spite of the constant advice of the attending obstetrician who was standing by his side and supervising each step of the operation.

Considering the frequency of extensive lacerations of the cervix in accouchement force when performed in the case of a long rigid cervix, the question naturally arises, Is the eclamptic patient with uterus emptied but with extensive cervical lacerations and considerable shock better off than she would have been with uterus emptied a few hours later, after preliminary softening of the cervix with an elastic bag which had made dilatation easier and extensive laceration less probable? In general, the writer believes this question can be answered in the negative, and in his own work both in his service at the Sloane Maternity and in his private practice he makes it a rule in cases with long rigid cervix to soften and prepare the cervix for dilatation by the introduction of an elastic bag before resorting to accouchement force. In the rare cases where the cervix is so long and rigid that the elastic bag either cannot be introduced or does not accomplish its purpose, the so-called vaginal Cesarean section has its limited field.

There is one other condition in which accouchement force is sometimes resorted to and in which, to avoid extensive uterine injury, a word of caution may not be out of place, *i. e.*, placenta previa. With the low implantation of the placenta and the accompanying inroads of the chorionic villi, the cervix and lower uterine segment, although perhaps rigid at the ring of the external os, are often more friable than usual and in the endeavor to speedily reach a foot and by drawing it down make the thigh

and half breech serve as a uterine tampon, extensive laceration even amounting to uterine rupture, has too frequently occurred.

This accident can best be avoided by considering the possibility of its occurrence; by preliminary softening and dilatation of the cervix by the elastic bag, or gauze tamponade, and by gentleness of manipulation striving, in the endeavor to avoid the Scylla of hemorrhage from the placental site, not to run on to the Char-ybdis of hemorrhage from uterine rupture.

No discussion of intrapartum uterine injury is complete without a consideration of that most serious injury known as uterine rupture.

Reference has already been made to extension of cervical lacerations into the lower uterine segment resulting from mechanical dilatation of the cervix. The form of uterine rupture however which deserves chief consideration, because in most instances avoidable, is that resulting from version in cases in which version should be considered contraindicated. Some idea of the frequency of uterine rupture and of its high mortality can be gained from the following statistics:

In a series of 20,000 consecutive deliveries at the Sloane Maternity Hospital there were thirty cases of ruptured uterus, *i. e.*, one in 666 2-3 deliveries. Of these thirty ruptures, fifteen occurred before the patient was brought to the hospital and fifteen after admission. Twenty-three were in multigravidae, and seven in primigravidae. Sixteen were of the complete and fourteen of the incomplete variety. Of these thirty ruptures, one occurred spontaneously. The maternal mortality was 86 2-3 per cent. The fetal mortality 80 per cent. Of the fifteen subjected to abdominal operation two recovered and thirteen died.

Of these twenty-three cases fourteen were of the incomplete variety.

Of the twenty-six maternal deaths fifteen were due to shock and hemorrhage, nine from infection; two from eclampsia independent of the rupture.

Until practitioners realize that a uterus working too long against an unsurmountable obstacle, especially if that uterus is weakened by previous cicatrices, may spontaneously rupture and until they realize that a case with membranes ruptured, liquor amnii drained away and uterus contracted upon the child is unsuited for version, uterine rupture is likely to occur.

With the wider diffusion of knowledge concerning the etiology of uterine rupture, this accident is becoming less frequent. This may be seen from the fact that in the last 6,000 deliveries at the Sloane Maternity no case of uterine rupture has occurred either among those admitted as waiting women, or among those in whom delivery had been attempted before admission.

One cause of uterine rupture which seemed to me unique was presented by a patient brought to my hospital service by a well-known member of our profession. Her history was as follows: After a long tedious labor with little progress and with fetal heart showing evidences of weakening, her physician, a very able obstetrician, decided to deliver her with forceps. The administration of chloroform was intrusted to a monthly nurse who soon after the application of the forceps had the misfortune to spill a portion of the bottle of chloroform upon the face of the patient. She had received but little of the anesthetic by inhalation and now coming out of its influence and feeling the burning from the chloroform on her face and eyes she became almost frantic. With one kick (she was a powerful woman) she deposited her obstetrician on the other side of the room and in the next moment threw herself forceps and all against the wall beside her bed. Her next move was to raise herself and fall on the handles of the forceps. By this time her physician was by her side and slipped off the forceps. The head which was previously engaged was now found receded and freely movable, version was performed and the child easily extracted. It lived about two hours but seemed injured about the neck. Examination of the patient on admission to my service showed a rent through the anterior uterine wall extending from cervix to within about an inch of the fundus but not opening the peritoneal cavity, *i. e.*, an incomplete rupture. This rent and the sub-peritoneal space in front of it were packed with iodoform gauze and the patient recovered giving birth to another child two years later.

Postpartum Injuries.—The most important and most frequent postpartum uterine injuries are those associated with attempts to empty and cleanse the uterine cavity. This applies especially to cases in which the uterine contents or the uterine wall itself is more or less infected and this holds equally true whether the pregnancy has ended in abortion or in full-term labor. Of these injuries perforation will be first considered. If a clean uterus recently pregnant is easily perforated just because

its wall has been softened by the peggnauey, much more easily is a uterus perforated which has been both pregnant and infected.

Many of us have seen these infected uteri after removal, through which the curette or sponge holder could be passed with almost as much ease as through dough. Hence, the importance in cleansing these septic uteri of secundines, blood clots, etc., of using the instrument which will do the least harm. This, in the opinion of the writer, is the sterilized finger wherever the dilatation of the cervix will allow of its introduction.

In cases where the cervical canal will not admit the finger or fingers, some substitute must be employed, such as the blunt, firm curette, sponge holder, etc., and here with the same precautions as recommended when discussing the cleansing of the uterus after abortion, namely, counter-pressure upon the fundus; the very gentle introduction of the instrument, and limiting whatever force is employed to the outward stroke.

The injury to the postpartum septic uterus which is frequently inflicted and its importance too little recognized, is a traumatism opening up new avenues of infection in attempts to cleanse the uterine cavity. The impression that because a woman shows a rise of temperature a few days after her delivery, her uterus should be vigorously curetted and frequently douched has undoubtedly been the cause of many a death.

A single intrauterine douche carefully given by a competent man will occasionally, in the presence of septic material in the uterine cavity, so injure the wall of the uterus as to open a new avenue for absorption of toxins at least, as is shown by a rigor and marked rise of temperature within an hour or two following the douche. If by this procedure the uterus has been cleansed of septic material and the temperature after its rise falls to normal and remains so, the result is considered as justifying the means in spite of the penalty of a rigor and rise of temperature.

But if a single intrauterine douche will occasionally cause such a penalty, how about frequent intrauterine douching repeated every few hours as was formerly the custom with some?

If a single intrauterine douche will bring such a penalty, how about vigorous curettage repeated daily for several days as I have known to be done by men who ought never to trust themselves with a curette in their hands? The greatest danger in the treatment of puerperal infection to-day is injury to the uterine wall

destroying nature's barriers against the spread of infection to the general system and opening new portals of entry for infection which, but for instrumental interference might perhaps have remained localized. The intrauterine douche with proper indications is a procedure of greatest value. The writer would not know how to treat puerperal infection without it, but he believes that it should be used with the greatest gentleness, that it should not, as a rule be repeated oftener than once in twenty-four hours, and that it should be continued only so long as the return flow shows that there is debris within the uterine cavity needing to be washed away. A word about the curette. It too, is a most useful instrument, one which, in the absetnee of sufficient cervical dilatation to admit the finger is almost indispensable, but much depends upon the man behind it. It may save many patients. It has killed many.

The object sought in the treatment of puerperal infection with septic uterine contents is cleanliness of the uterine cavity with the least possible injury to the uterine wall in securing this result.

If you can be sure that the uterus is empty leave it alone.

If in doubt explore, but do it as gently as possible with sterile fingers as first choice and curette as second. If septic secundines are found within the uterus remove them as carefully as possible with finger or curette, but do not repeat the use of the curette. Use the intrauterine douche only so long as the return flow shows results.—*American Journal of Obstetrics*, Feb. 1910.

SOME OBSERVATIONS ON GALLSTONES, WITH REFERENCE TO CANCER OF THE GALLBLADDER.

BY ALBERT VANDER VEER, M.D.,
ALBANY, N. Y.

For some time I have had an impression that cases of carcinoma of the gallbladder and gallducts had gallstones present for a number of years, as an etiological factor, and yet I did not find the condition apparently so frequently as I had expected. In going over seventy-two cases, somewhat recently, and not pre-

vously reported, I am able to present some facts that in themselves are rather interesting. Of these cases there were nineteen males and fifty-eight females, illustrating the fact, so often observed, that females more than males suffer from gallbladder complications.

Regarding their ages, there were three cases from twenty-six to twenty-eight years, fifteen cases from thirty to thirty-nine years, twenty-six cases from forty to forty-nine years, twenty-two cases from fifty to fifty-nine years, eleven cases from sixty to sixty-nine years.

The study of the duration of symptoms is also very valuable and is as follows:

Two to four days, two cases; six to eleven weeks, five cases; two to eighteen months, thirteen cases; one year, three cases; two years, seven cases; three years, nine cases; four years, eight cases; five years, eight cases; six years, five cases; seven years, one case; eight years, one case; ten to nineteen years, eleven cases; twenty to twenty-six years, four cases.

The diagnosis of the seventy-seven cases was as follows: Gallstones, sixty-four cases; cholecystitis, ten cases; and gallstones and carcinoma, three cases.

Operations revealed the following conditions: Gangrene of gallbladder, two cases; obliteration of gallbladder, with many adhesions, one case; a very contracted gallbladder with thickened bile, one case; stricture of common duct, with distended gallbladder, one case; distended gallbladder with inspissated, dark bile, five cases; gallstones in common duct, four cases; gallstones in cystic duct, two cases; gallstones in gallbladder and cystic duct, two cases; exploratory incision revealing carcinoma of gallbladder and no further operative intervention, two cases; exploratory incision for carcinoma of gallbladder and ducts, and calculi found, two cases; exploratory incision for carcinoma of gallbladder, ducts, and liver, no calculi found, three cases; abdominal section in which gallstones were found and removed, ovarian cysts, two cases; uterine fibroids, six cases; appendectomies, five cases; one case of cholecystotomy showed no calculi but an enlargement of the head of the pancreas, and was undoubtedly a case of pancreatitis, recovering through drainage, one case; nephrectomy of right kidney—transperitoneal—also cholecystotomy and removal of several calculi, one case; stricture of cystic duct, one case; case of long, serious illness in which

patient gave all the symptoms of biliary colic, obstruction of bowels following about two years after, and laparotomy done. A large gallstone found blocking ileus. Removed. Death from exhaustion, one case.

After careful analysis of the five remaining cases, it is fair to assume they were of the nature of chronic pancreatitis and the operation of cholecystotomy, with drainage, resulted in their cure.

The mortality immediately following the operation was eight patients, none living to exceed ten days. Of the five cases of carcinoma, two patients died within a few days and three lived some time later, in fact, two of them lived so long a period after the operation it gave me some doubt as to the diagnosis being correct. Three deaths followed cholecystotomy, in two of which calculi were removed. Two patients died from shock. In these latter cases there were many adhesions, the stones deeply located, one in the common duct, and the operation very difficult. In the other case there were several stones deep down in a mass of adhesions and persistent hemorrhage followed. In the case of obliteration of the gallbladder, reported before, death resulted from shock. In the one case of contracted gallbladder, in which there were several stones, it was found necessary to use the long Murphy button, and death resulted from peritonitis on the tenth day. One death resulted from obstruction of the bowels, but to a large stone found blocking the ileus, and not really to be properly classed as an operation for primary removal of gallstones.

Of the cases of cholecystenterostomy one was for a biliary fistula following one of the operations for cholecystotomy, where many calculi had been removed. The fistula persisted for months but closed quickly with the use of the small Murphy button. The second case was that of stricture of the common duct where the Murphy button was used and complete recovery followed. The third case was the same as the first.

While there were several cases in which fistulae developed, lasting even as long as a year, they ultimately healed. In some cases I have seen good results follow the application of a few drops of carbolic acid into the sinus. One patient is yet living with a fistulous opening of nearly eight years' duration. She cares for it very kindly and is content. Whenever it closes she is so uncomfortable she is very anxious to have it reopened.

There were two cases of persistent discharge with occasional

colic, so pronounced that the patients submitted to a second operation, one at the end of three, the other at the end of two years. Recovery followed removal of the gallbladder in each case. There together with a case of nonmalignant tumor of the gallbladder made three cholecystectomies.

Of the seven cases in which there was malignant disease present, two, of carcinoma of the gallbladder, were inoperable; two of carcinoma of the gallbladder and ducts, in which there were calculi present, were also inoperable; three cases in which there was carcinoma of the gallbladder, ducts and liver, in which no calculi were found, and inoperable.

The average length of symptoms in these cases was as follows:

Male, æt. 58, symptoms of 11 months' duration.

Male, æt. 40, symptoms of 3 months' duration.

Female, æt. 52, symptoms of 5 years' duration.

Female, æt. 53, symptoms of 12 years' duration.

Male, æt. 49, symptoms of 7 years' duration.

Male, æt. 65, symptoms of 3 years' duration.

Female, æt. 53, symptoms of 15 years' duration.

It will be observed that there was a great discrepancy here in ages and duration of time and symptoms.

No doubt our pathologists are correct in that at some period gallstones produce an irritation that results in the development of malignancy, and when once this period is reached, the carcinoma must advance with considerable rapidity, and that we have not been at all in error when advising patients suffering from gallstones to have a prompt operation, for there can be no question that some of the cases of attack of biliary colic do result in cancer.

It may be proper to state here that these seven patients with carcinoma of the gallbladder, ducts, and liver, did not have any evidence of primary carcinoma of the stomach.

It will be noted that there were quite a number of cases in this group that extended over a long period of years without malignancy developing.

In going over these cases it is interesting to observe the symptoms in some of the special ones. For instance, the case in which marked symptoms developed in two days was a chauffeur by occupation, and had had symptoms of indigestion, as he supposed,

for two years, without consulting a physician. He was taken suddenly ill with great pain in his side, was seen by my son, Dr. James, who readily discovered a tumor in the region of the gallbladder, and believed it a case of acute abscess associated with gallstones. The patient was taken to the hospital the next morning. Upon operating, we found the gallbladder greatly distended, packed with gallstones, and just approaching a gangrenous condition. The acute symptoms were here very pronounced and an immediate operation was a fortunate procedure for him. The drainage continued for three months, then closed, and for some three weeks he was quite comfortable, when the gallbladder again became distended. Another incision was made by my son, Dr. Edgar, and drainage carried out for some time, after which the sinus healed, and the patient has remained in excellent health since.

In the two cases of gangrene one, as noted, had had symptoms for a period of twelve years, during which time she had been urged to have an operation, then had an acute attack, which was very pronounced, immediate operation called for, and the gallbladder was found in a gangrenous condition. In the other case the symptoms previous to the acute attack, which resulted in this condition, were not so characteristic.

A case of much interest, now under observation, was operated in nine years ago. The patient had marked symptoms of biliary colic extending over a period of twelve years, when finally her sufferings were so great she submitted to an operation. Forty-six decidedly faceted stones were removed, and no more to be felt in the gallbladder, but in the course of the drainage in the next four months she passed in this manner forty more calculi, also had some three well marked attacks of biliary colic. The patient then made an excellent recovery and remained in good health until November of this year when she had a return of very severe pain, which her physician telephoned me was precisely like her old attacks of biliary colic of years ago. In the course of about a week or ten days the site of the incision became distended, and on consultation we thought we had a case of abscess of the gallbladder to deal with. The patient was very much exhausted, but under cocaine and a few inhalations of chloroform I made an incision finding the gallbladder so deeply attached to the edge of the liver that I finally had to open into the peritoneal cavity, reached the point of distension, and re-

moved about sixteen gallstones, which were decidedly faceted, then introduced drainage. The patient was critically ill for forty-eight hours, but finally began to rally. In securing movements of the bowels the nurse observed a large gallstone, which, on examination at the laboratory, proved to be that and not a faecal concretion. Possibly this is the stone that gave her her sharp pain in the beginning of the present attack. Had this patient been in any kind of proper condition I would have done a cholecystectomy. Aside from this case I cannot call to mind any in which gallstones reformed.

In this group there were two interesting cases in this respect:—One patient in whom 1,900 calculi were removed, returned to the hospital in six months, stating she had precisely the same symptoms she had before the operation. The patient was kept under close observation. She was in a great state of fear, very nervous and excited, but when assured there was no reformation of the stones finally realized her sufferings were somewhat imaginary. She ultimately recovered. I have had the patient under observation more or less since and she has had no return of her old attacks. The same conditions apply to another case in which the patient suffered fear of a return of the trouble.

That stones are sometimes hidden in a dilated duct or sac, and that we fail to always reach the entire number is illustrated in two cases:—One in which the drainage continued, and after four or five months a good sized stone was found in the lower part of the gallbladder which required quite an effort to remove. In the other case several stones made their appearance almost a year after the first operation for drainage in a case of supposed cholecystitis, in which no stones were found, although careful search was made at the time.

The skill with which we can now bring together portions of the omentum and place in a drainage tube so as to keep up continuous drainage, in cases where the gallbladder is so small and impossible to remove, or attach to the incision, brings greater success than ten or fifteen years ago, our technique becoming so much more perfect. Drainage down through the peritoneal pouch, opening through the lumbar region, is very satisfactory, and as mentioned so favorably by Robson at one time. I am quite sure that death resulted in one of my earlier cases from imperfect drainage.

It is worthy of note that one of the patients with uterine

myoma, in whom there were gallstones removed, had had her attacks of biliary colic from early girlhood.

The study of the mortality list impresses one with the statement that has been made by other operators that stones of the common duct, of long standing, are very difficult to reach and the percentage of deaths much greater here than in simple cholecystotomy, where there were no such complications. The mortality in the latter cases is very small.

One very impressive case, regarding the courage and confidence of the patient is as follows:—February 18, 1903, the patient had marked symptoms of endometritis, was curetted and relieved. March 2, 1905, had an operation for a movable right kidney. Her symptoms of cholecystitis continued, with pain over appendix, and she was operated upon April 11, 1905, for removal of the appendix. A gallstone was felt in the gallbladder and removed by cholecystotomy. The patient made a good recovery and has remained well since.

One case of the group illustrates most forcibly the marked cholæmia which is not always fatal after an operation. For two years the patient had been ill with attacks of pain and jaundice, with bleeding from the gums and lips for two days before the operation. Cholecystotomy was done, calculi removed, and she made a good recovery.

One of the fatal cases was associated with somewhat similar symptoms.

A case that went over twenty-five years was most interesting in its history. The patient had had many attacks and at last, although reaching the age of sixty-two, could bear her sufferings no longer and submitted to an operation. Quite a number of stones were removed and although she was very ill for a few days, she ultimately made a splendid recovery. She returned to full health, and a year after her operation her color and added flesh were so pronounced as to impress her friends very forcibly.

A very unusual case was the following:

The patient, a female, æt. fifty-eight, who had given symptoms for a period of twelve years. She had resided for the past three or four years in Cuba. Was quite comfortable up to two years ago, when she began to have more serious and painful symptoms, and during the past year frequent attacks of colic.

Six months ago she noticed a circumscribed pain under the edge of the liver and a fulness afterward. Patient returned home to the United States three months ago and came under my observation when I could make out a distinct tumor in the region of the gallbladder, not moveable, and with an apparently circumscribed attachment to the abdominal wall. Her general appearance was good, she had not lost in flesh, was not suffering so much, no stomach symptoms, and her bowels were moving quite regularly, but the pain was somewhat steady and continuous, although not so markedly the nature of biliary colic. Operation advised, to which she readily consented, and done November 18, 1909. An incision made down to the tumor revealed a condition in which the gallbladder, with mesenteric attachments, could be felt in a circumscribed mass about like a medium-sized split lemon. Adhesions were loosened up as well as possible, the mass separated from the mesenteric attachments and the ascending and transverse colon and by the thermocautery from the under surface of the liver. Hæmorrhage was not at all severe. A complete cholecystectomy was done, and one large calculus, not at all faceted, was found present. The material removed had the appearance of true carcinoma of the gallbladder.

Report from the pathological laboratory, December 6th, was as follows: Hypertrophy of gallbladder. Acute and chronic cholecystitis, and pericholecystitis. Acute myoeystitis. Chronic myoeystitis. Marked acute and chronic inflammation. Many large closely meshed epithelial cells filled with fat. No evidence of malignancy.

Da Costa (*Surgery*, 1903), remarks: "Gallstones may lead to suppurative inflammation of the gallbladder or bile passages, ulceration, occlusion of the neck of the gallbladder, dilatation of the stomach from the formation of adhesions which kink the pylorus, abscess, peritonitis, empyema of the gallbladder and cancer of the gallbladder."

Adami (*Pathology*) states: "Carcinoma, usually of the cylindrical celled variety, affecting the gallbladder, may result from the irritation of a calculus. It often spreads to the liver by contiguity."

In Keen's *Surgery*, III, p. 1006., we find in the section written by William J. and Charles H. Mayo:—"1. Gallstones are almost always present in primary cancer of the gallbladder, and not in secondary metastasis. 2. The relative disproportion of

malignant disease of the gallbladder and gallstone disease in men and women is practically identical. 3. The pathological lesions actually found are best explained on the irritation theory."

Moynihan in *Gallstones and Their Surgical Treatment* observes: "Malignant disease. One of the most serious of the sequelæ of cholelithiasis is malignant disease of the gallbladder or of the duets. The close connection between gallstones and malignant disease has never lacked recognition, though opinions have differed as to which is the cause and which the effect. Opinion is now universally in favor of the view that it is the irritation of the gallstones that determines the incidence of cancer, the view that was first supported by Klebs. In his record of cases Courvoisier found the following results:—Of eighty-four cases of primary cancer of the gallbladder, stone was found in seventy-two; in two other stone had passed in motions. In ten cases no mention of stone was made; in four certain pathological changes were found, scarring of duodenal papilla, stricture thereof, and dilatation of all the bile passages, indicating, unquestionably, the former presence of calculi. In primary cancer gallstones are present in fifteen per cent. Musser, in 1889, had collected notes of one hundred cases of primary cancer of the gallbladder and verified by post mortem examination. Gallstones were present in sixty-nine. Jayle, in thirty cases collected entirely from French records, found stone present in twenty-three cases."

In *Diseases of the Liver, Gallbladder, and Bileducts*, Rolleston, p. 627, states:

Relation of primary carcinoma of the gallbladder and gallstones.—Special interest attaches to the association of gallstones and carcinoma of the gallbladder, inasmuch as the calculi are generally thought to be the cause, whether by direct irritation or otherwise, of the neoplasm. That calculi are commonly met with in primary carcinoma of the gallbladder is shown by numerous statistics. Conversely, it appears that primary carcinoma of the gallbladder occurs in from fourteen to four per cent. of all cases of cholelithiasis. Among 242 cases in St. George's Hospital there were ten cases of primary carcinoma of the gallbladder, or 4.1 per cent. In twenty-one and one-half years in this institution there were sixteen cases of primary carcinoma of the gallbladder; thirteen, or eighty-one per cent. of which were associated with gallstones.

Experimentally, however, it does not appear that bile is more likely to crystallize on stagnation provided the gallbladder is aseptic. (Mignot.)

There is undoubtedly a very definite relation between cholelithiasis and the development of primary carcinoma of the gallbladder. But gallstones are so commonly present without carcinoma developing, that though they dispose to its occurrence, some additional factor is necessary. Possibly the part played by calculi is that of preparing the soil for the direct cause, whatever it may be, of carcinoma.

Malignant disease of the gallbladder is very much commoner in women. According to Futterer's figures (202 females, fifty-two males) it is four times more often seen in women.

Frerichs described the disease as one of old age. Carcinoma of the gallbladder is very rare before forty years of age.

In *Surgical Diseases of the Abdomen*, by Douglas, we read on page 389: "Gallstones are often found in association with primary malignant disease of the extrahepatic bile channels. * * * Clinical evidence altogether favors the conclusion that cholelithiasis exists prior to the development of the neoplasm. The theory of irritation has, therefore, received general acceptance, and primary carcinoma of the bile channels is commonly regarded as a sequel of gallstones."

Kehr, in *Gallstone Disease*, states on page 46: "It is an uncontrovertable fact that the concretions furnish the stimulus to cancer formation."

A. F. Ochsner, in Kelly and Noble's *Gynaecology and Abdominal Surgery*, in summing up the medical treatment of cholelithiasis, says: "There is always the danger of carcinoma as a result of the long continued irritation."

In *Gallbladder and Bileducts*, Mayo Robson observes, on page 122: "Cancer of the gallbladder is not nearly so uncommon as was once believed, but as a primary affection is somewhat rare. It is usually secondary to gallstones, or to cancer of adjoining organs, and in the latter case is not amenable to surgical treatment." This statement coincides with my cases.

In *Surgical Diagnosis*, by Eisendrath, we find on page 341: "Malignant disease of the gallbladder. This frequently follows cholelithiasis and should be suspected if a hard mass is found in the right hypochondriac region following a history of gallstones

in an elderly patient with persistent jaundice. The tumor is usually nodulated, rarely smooth, and is very hard in consistency. This induration, the nodular surface and the rapid appearance of cachexia followed by icterus and ascites, serve to distinguish it from cholelithiasis; but in the latter the organ may be indurated so that a diagnosis is often not made until the abdomen is opened. The pains in cancer are not sharp and colicky, but of a dull character. If fever and colicky pains appear, they indicate an infection of the carcinomatous gallbladder. The course is a very chronic one."

Hexton-Riesman, in *An American Textbook of Pathology*, states on page 818: "One result of the presence of gallstones should not be forgotten—carcinoma—which may spread by continuity to the liver, so that the point of origin may at last be difficult to make out. It is usually of the cylindrical cell type. Sarcomata, fibromata, and myxomata are recorded."

Martin, in *Surgical Diagnosis*, states on page 523:

Cancer of the gallbladder, usually due to stone, is characterized, aside from the symptoms of this latter condition, by nodular tumor in the gallbladder region. Diagnosis should be made by operation, and before tumor becomes demonstrable.

Gallbladder cancer, secondary to infiltration of the liver, usually gives a history of stone, and is of minor moment compared to the primary disease. In either case, if the cystic duct be occluded, acute suppurative cholecystitis, with its characteristic symptoms, may develop and mask the original lesion.

Occlusion of the common duct by cancer of the papilla cannot be distinguished from that due to stone, since it is usually secondary to this condition, except for the lack of intermittence in obstructive symptoms and the development ascites from vein involvement. The complicating gastric disturbance, the constitutional manifestations of cholangitis, and the symptoms and signs of pancreatic involvement, are the same in both affections.

Johnson, in *Surgical Diagnosis*, II., p. 163, observes:

Gallstone disease.—The experience of surgeons throughout the world during the past ten years indicate that early diagnosis is of the greatest importance to the affected individual; thus William J. and Charles H. Mayo, in one of their most illuminating papers on this topic, "The Diagnosis of Gallstone Disease," in the *St. Paul Medical Journal*, February, 1905, write as follows:

"In reviewing the mortality of 1,000 operations for gallstone disease we have been impressed with the very fortunate outcome where gallstones were in the gallbladder and therefore were complications. In the 1,000 cases there were fifty deaths, or an average mortality of five per cent. The death rate in 820 cases in which the disease was confined to the gallbladder and for benign conditions was three per cent. In 416 cases of simple gallstone disease the mortality was less than 0.5 per cent. The common duct operations amounted to 14.6 per cent. of the whole. In 137 operations for common duct stones the mortality was eleven per cent. In forty cases, or four per cent., malignant disease was discovered, and the operative mortality was twenty-two per cent. In practically all of these cases gallstone irritation had been the cause of the development of cancer.—*New York Medical Journal*.

THE OPIUM, OR MORPHINE DISEASE.

*By G. Frank Russell, M. D., Supt. Russell's Sanatorium,
Louisville, Ky.*

Nature emphatically reminds us that we must not abuse the instruments for good which she has placed in our hands. Morphine has unquestionably been the means of saving many from death, but when used injudiciously proves an unmitigated evil, bringing only misery and destruction in its wake. Opium, in all of its forms, which, in the treatment of many diseases is the physicians sheet anchor, and which in the treatment of acute inflammatory diseases is absolutely indispensable, is in the hands of a thoughtless or careless physician a menace, and frequently an absolute curse to many of his patients. And so may become the source of physical, mental and moral degeneration and degradation to those who become its habitual users.

The use of opium dates back to the time of Hippocrates, several hundred years before the Christian era, and later on Galen considered it of much importance. Nowhere, however, among the writings on ancient medicine which I have read, have I found anything indicating its use as an intoxicant and stimulant, which are the factors in its composition that lead to its habitual use in modern times. For fifty years the opium habit has been gradually increasing in this country. Among the American people the habit is in the great majority of instances commenced in

the legitimate use of the drug for the relief of pain, and hence the patient often dates the beginning of the habit to the use of the hypodermic by his physician. Over eighty percent of the cases that come to the sanatorium for treatment, give this history as their starting the use of the opiate. The other twenty percent usually form the habit from the inability to control a vitiated appetite resulting from a feeble organism transmitted to them by heredity, or for the direct purpose of indulging in the sensuous enjoyment which the drug brings; especially in the opium smoking. Every asylum contains, side by side with the inebriates, chronic morphinists, both classes having as the only reason for their habits defective nervous systems with consequent demoralized will power.

Undoubtedly the invention of the hypodermic syringe has done much to increase the prevalence of this disease. The effect of the opiate when introduced by the needle is so instantaneous, that the instrument itself in a short time seems to exercise a strange charm over the victim. There is a fascination to the patient in the very thought that he can produce within himself a feeling of superiority to his surroundings, stimulating every fibre of his being, and cause pain and trouble to vanish while under the influence of the drug.

Opium is classed under the head of the narcotic drugs, but its primary effect is always to stimulate the entire system. As in the case of all stimulants there is a limit to the endurance which the system will maintain in their continued use. I have seen the opium disease in all its phases and its effects upon the nervous system, which, in fact, is the seat of the greatest pathological changes, its action on the organs and glands of the body being almost entirely secondary, to its influence on their nerve supply. We can not be surprised therefore to learn that its effects produce pathological degeneration in the higher nerve centers in the brain, and that the mental and moral faculties are quite frequently blunted by its prolonged use. The mind sometimes becomes affected to the extent of producing, either temporary or permanent insanity. When this is the case, opium has fastened itself on the patient to the extent that he is dying inch by inch, and frequently does not realize his true condition, and will die in a short time unless he receives the proper treatment that will lead to his cure.

The treatment as administered in this Sanatorium restores

the normal mental condition and moral responsibility. The patient seeks relief from an enemy that is as relentless as it is powerful, for the continued use of the drug will eventually destroy the life of the devotee, and he must join in the great throng who have traveled the same road before him. The tortures that one endures who is afflicted with the disease of morphinism, I will not attempt to depict, as the most vivid imagination fails to conceive or the most gifted writer to describe all the horrors which the opium patient suffers. It might well be said that he suffers a living death. He can no more stop its use, when once in its coils, than he can stop breathing and live. It is no use for him to try to stop, or to reduce the drug for it will only cause agonizing and horrible suffering, but he will surely go back to the drug for relief. In the proper treatment of the disease, the patient must not only be relieved of the cause, but methods must be instituted at the same time to repair the havoc wrought by the habit; that is, the restoration of the normal physical and mental functions. This can only be done in an institution properly equipped with every facility which experience has taught is so necessary to the production of a permanent cure. Since this is in every essential as truly a disease as any that the general practitioner is called upon to treat, it should be handled in a scientific and practical way, giving each patient the individual treatment and care that his case calls for, and not by any routine or set method for all cases. The physical and mental condition of the patient, the time he has been addicted to the habit, the amount of the drug he is using are all factors of the greatest importance, and must necessarily have the first place in the line of treatment selected. When a patient is admitted to the Sanatorium we make a very thorough and careful examination to determine the above factors, and for the first three or four days he is allowed to use the accustomed amount of drug that we may know exactly the facts in regard to this feature. This time is spent in studying all the various conditions of the patient, that an intelligent conclusion may be arrived at before beginning the treatment proper. During the treatment the patient suffers no pain, does not lose his appetite, and is not necessarily confined to bed. There is a period of nervous depression lasting from a few hours to two days according to the condition of the patient, following the withdrawal of the drug. Longfellow seems to have had this feeling in mind, when he said, "There is a feeling of

sadness and longing, that is not akin to pain, and resembles sorrow only as the mist resembles rain." When this period is over the patient has left his trouble behind, he feels as free from the drug as if he had never taken a grain of it, and the rest of his stay is spent in regaining his former health and strength. The age of the patient is not a great factor in the treatment or the cure. One of our patients having past the allotted three score and ten, and his relief has been permanent. We do not allow our patients to leave until they say they are well and have no desire whatever for the drug, and this is after we have stopped giving them medicines of any kind. We feel justified from past experience, in stating that we can and do relieve and restore to perfect health and strength, patients who have been in the worst possible physical and mental health from years of habitual use of opiates. Their minds are restored to their former clearness and power as well as the perfect restoration of all the bodily functions. During the stay in the Sanatorium as little restriction as is possible is placed on the patient. Each one has a private room and all treatment is conducted there, so as to avoid any publicity whatever; and all the conveniences and comforts that are possible are given each patient.

Recent Progress in Medical Science.

HYPERCHLORHYDRIA.

Fenton B. Turek, of Chicago, Ill., says that we find increase of acid in the stomach in early gastritis, gastric neuroses, and retention. Ulcer does not produce it. In simple gastritis, there is an increase in hydrochloric acid in the beginning without retention; later decrease occurs. Neurotic persons often suffer from acid stomach. The causes of neurosis, such as too much brain work with little exercise, fresh air, or sunshine, smoking, and unhygienic diet, must be removed and the patient placed on a nutritious and nonstimulating diet. Two illustrative cases are given. Hyperchlorhydria of retention is the commonest of the three forms. The diagnosis of retention is made by withdrawal of food contents in a fasting stomach. Acidity will disappear when the food does. Retention may be due to obstruction or atony; if obstruction be present air will be forced through the tube in

puffs; if atony is present it will come out slowly. Myasthenia is more frequent than stenosis, and to aid the stomach only two meals are given a day. In examination the stomach tube and a reagent capsule containing test papers are used to pass into the stomach. The stomach is examined in the reclining posture. The double stomach tube appears to be the best to use. In neurotic cases general and hygienic treatment have the best effect; the occupation and surroundings should be changed and more outdoor air given. Tea, coffee, alcohol and tobacco should be stopped; highly seasoned foods, pickles, and extractives should be avoided. Rapid eating and overeating must be stopped; drinking with meals must be avoided, bouillon and soups discarded; fruits and cereals and extract-free meat must be used. Long intervals between meals allow stomach rest. Sweets, desserts, and salads are inadvisable. Gelatin and agaragar are soothing. Carbonic acid gas containing drinks, peroxide of hydrogen, and magnesia are useful. Atropine and physostigmine by hypodermic injection are advocated. Local treatment by gastric lavage with 1-1000 nitrate of silver is advocated. Pneumatic gymnastics are valuable.—*Medical Record*, February 12, 1910.

LOCAL ANESTHESIA IN GENERAL SURGERY.

W. S. Schley, of New York, says that the character of the disease, of the patient, and of the surroundings must influence the choice of an anesthetic. Local anesthesia has a definite and widening field of usefulness. The danger of local as compared with general anesthesia is always less. There are cases in which general anesthesia is not desirable on account of other diseased conditions than the one requiring operation. The advantages of local anesthesia are reduction shock, absence of respiratory and gastric disturbances, and of organic disturbances of any kind, and a more agreeable and safer postoperative period. The absence of unconsciousness may be of value to the operator by permitting of certain useful movements, such as a deep breath to depress abdominal organs. There is absence of abnormal heat radiation from the lungs and of direct toxic action on the brain and spinal cord. It is especially adapted to abdominal surgery. The author uses novocain-adrenalin solution; novocain in 2-4 per cent., with adrenalin added in the proportion of 5-6 to one. The tissues operated on are dry and bloodless; secondary hemor-

rhage and interference with wound healing has not been observed. Exploratory measures are especially adapted to local anesthesia. The skin and periosteum are the seat of most of the sensibility, muscles, peritoneum, and subcutaneous tissues being insensitive, and it is these that should be anesthetized.—*Medical Record*, February 5, 1910.

MIGRAINE.

Sidney Kuh, Chicago (*Journal A. M. A.*, February 19,) discusses what may be called idiopathic migraine as opposed to the symptomatic migrain occurring in other brain disorders. The distinction, he says, is one that is frequently ignored in practice, a fact which has contributed to the differences of opinion in regard to the disease. It is slightly more common in women than in men and is, according to most observers, most common in brain workers though this is denied by Mobius. The first attack usually occurs early in life, and in one case at least—that of Born—it is even said to have been congenital. The overshadowing etiologic factor is heredity and it has been traced back three and even five generations. Other nervous disorders are also found in the ancestry of migrainous subjects. In fact, it is doubtful whether any of these are free from some such heredity. English authors credit gout as a factor but this is somewhat discredited by Kuh. Eye-strain, which has been considered a cause by many American physicians, is not considered an important one by the author and he cannot credit it as a cause without heredity. The same is true of a large number of other diseases and conditions. Insomnia is not a cause. In fact, oversleeping may bring on an attack as in the author's own case. Sexual excess, insolation, foul air, and sometimes dietary indiscretion, may bring on an attack. The majority of patients suffer from chronic constipation and women frequently have the attacks at their menstrual periods, while pregnancy in some cases brings temporary relief. Some patients can predict an attack, either by previous depression and irritability, or even by euphoria, as in the author's own case. Prodromal stages, however, are far from being a constant factor. The attack may be preceded simply by an aura, generally of vision, or by paresthesias, and the various forms of aphasia have been seen

preceding an attack. In many instances no prodromes are present, the pain coming on suddenly, usually unilateral but not always on the same side in the same individual; the left side is most apt to be affected. The character of the pain varies and is perhaps most often throbbing. It does not intermit, but remissions and exacerbations are common. External stimuli are painful and moderate depression is frequent. The affected side of the head is often warmer than the other with reddening of the face, but abnormal local pallor may also occur. The heart action is usually unaltered but bradycardia has been observed. The conjunctivæ are often injected and there may be slight ptosis. The pupils are apt to be contracted and may be unequal. Nausea is a fairly constant symptom. Kuh speaks of a peculiar abdominal sensation which is hard to describe, usually associated with chronic constipation. He has observed the same in ptomain poisoning. Sometimes the attack ceases with eructations, spasmodic sneezing, profuse lacerimation, sweating, polyuria, etc. Authors have described a peculiar hypothermia (96.8 by rectum) and an increase of lymphocytes has been noticed by Russell. Transitory mental disturbances and epileptiform conditions have also been observed. The disease usually lasts the greater part of life, never directly causing death and seldom grave results. Treatment may improve the condition, lessening the number of attacks and their severity. Prophylactic treatment is practically out of the question but much can be done by simple life, plenty of fresh air, relief of constipation, etc. Meat should be used in moderation, alcohol prohibited, and coffee and tobacco used only in small quantities, and sexual excess avoided. Change of climate-sometimes brings relief. Excessive mental work and indiscretions in diet should be guarded against. As to drug treatment, Chareot recommends the bromids but Kuh has had little success with them. The salicylates and coal-tar anodynes are sometimes useful. Gowers recommends nitroglycerin when the face is pale. Cannabis indica is often helpful in an attack. Opiates should not be used if relief can otherwise be obtained. Gentle massage of the painful area and a cup of strong coffee, or menthol or mustard plaster, or other local applications may help. Mental exertion in some cases will relieve. Kuh speaks of the strong arguments in favor of autointoxication in cases of this disorder but it cannot be proved. He does not credit at all its epileptic nature.

SIMULATED TUBAL PREGNANCY.

H. S. Crossen, St. Louis (*Journal A. M. A.*, February 12.) says that the difficulties of diagnosis of tubal pregnancy are due largely to the fact that many cases are atypical, presenting some symptoms but not all. A few of the more common conditions are described. These may be grouped in two classes—first, those conditions in which the principal feature is a tender pelvic mass associated with some of the other symptoms, and second, those in which the principal feature is sudden abdominal pain and collapse without apparent cause. First among the first class he mentions gonorrheal salpingitis which has given him more trouble in differentiating it from early tubal pregnancy, than any other disorder. Five cases of this class are reported in some of which the temperature reached 102 F., which is not altogether significant as it may occur in tubal pregnancy. Ovarian and broad ligament abscess may also cause confusion and embarrass diagnosis, and three cases of this class, discovered after operation, are reported. There are various anomalous conditions that may cause an intra-uterine pregnancy to simulate a tubal pregnancy. He reports cases of hydatiform mole, hysteria with uterine displacement, irregular softening of uterus during pregnancy, and retrolateral and antrolateral flexions which have caused mistakes of diagnosis of this kind. These are collected from various sources in the literature. Tumors may produce similar errors, as he shows by personal and quoted observations. When a married woman in the child-bearing period is seized with severe abdominal pains without apparent cause and passes into collapse such as is usually associated with severe internal hemorrhage, we naturally think of ruptured tubal pregnancy. If there happens to be a history to correspond of missed menstruation or other symptoms a tentative diagnosis of rupture and prompt action accordingly is justifiable. Hence the importance of careful consideration of all the causes that may cause such symptoms, and there are a number of such, a few of which he mentions. Among these are hemorrhage of the ovary, ovarian cyst with rupture, hematosalpinx, salpingitis with collapse, ruptured appendix and pelvic tumor, and fulminating pelvic edema, of all of which cases have been reported by authorities and some of them are reproduced. Summing up, he insists on the importance of excluding sudden exacer-

bations of dormant gonorrheal salpingitis by careful examination for all possible symptoms of that condition and also the rare cases of acute gonorrhea which manifest themselves by explosive tubal symptoms. In such cases a careful search for the gonococcus is desirable. An early miscarriage, if associated with tumor or followed by mild salpingitis, may closely simulate tubal pregnancy, and a pregnant uterus may present very misleading symptoms, such as those described. An unsuspected tumor in the pelvis may give rise to severe disturbance and, if other symptoms indicating tubal pregnancy occur, mistake is easily made. Ovarian hemorrhage or tubal hemorrhage due to other conditions, as they may be, may so closely simulate extranterin pregnancy as to be indistinguishable before operation and in some cases even leave doubt after it has been performed. Salpingitis, appendicitis, and perforations in the gastrointestinal tract and fulminating pelvic edema, with its sudden onset without very high temperature as sometimes happens, are also causes of error at times. The diagnosis of tubal pregnancy must rest on a number of symptoms, no one is sufficient, and it is hazardous to depend on two or three alone unless they are very marked and significant. All the symptoms must be considered and all conditions which may produce similar ones definitely excluded.

THE INFLUENCE OF ALCOHOL IN CERTAIN DISEASES OF THE SKIN.

L. Duncan Bulkley of New York, shows the beneficial as well as the deleterious influence on skin diseases that alcohol taken internally may have. Its influence depends greatly upon the paralysis that it causes of the vasoconstrictors of the capillary vessels in the skin, which allows of congestion of the skin. It causes formation of fibrous tissue and of fat, thus interfering with the function of the organs. The degeneration of the peripheral nerves is another factor in injury to the skin. Alcohol diminishes the activity of muscular tissues; it lessens metabolic changes and the disposal of waste substances in the blood. The effects are not the same for all preparations containing alcohol. With many beverages which contain small percentages of alcohol it seems to be other constituents of the solution that have the bad effects. To the syphilitic alcohol is a veritable poison, causing ulceration of all sorts of lesions. A previous mercurial

course does not prevent their appearance. No matter at what stage of the disease the patient has arrived it is harmful, causing reappearance of symptoms after they had entirely disappeared for years. Alcoholic drinks are frequent causes of acne in its various forms, and wines and beer, as well as whisky, have this effect. It has a bad effect on psoriasis, causing itching, burning, congestion, and fresh attacks when the eruption had disappeared. It has a bad effect on eczema. It can excite an eruption resembling pellagra. On the other hand it is of value in treatment of certain skin conditions, on account of its bactericidal effects and its cooling by evaporation. For this purpose it is used on compresses in inflammatory conditions. It is useful in treating herpes, furuncles, favus, and lupus.—*Medical Record*, February 19, 1910.

LARYNGEAL DIPHTHERIA.

C. H. Shutt, St. Louis (*Journal A. M. A.*, February 5), thinks that non-instrumental methods are worthy of more frequent trial, at least in hospital practice, in cases of laryngeal diphtheria with only slowly increasing dyspnea, only moderate exhaustion, and slight cyanosis. The local measures consist chiefly in inhalations, securing of favorable surroundings and perhaps the induction of comiting to aid in removing loosened membranes. General medical treatment consisting of antitoxin and stimulation as needed cathartics, diuretics, etc., should be employed as in pharyngeal diphtheria. Antitoxin should be employed in all cases and as early as possible, and he prefers moderate sized doses repeated every four to six hours as more effective and less depressing than massive ones. When the patient is very weak, toxic or much cyanosed, surgical or mechanical measures are indicated and the choice is between intubation and tracheotomy. The author's conclusions are as follows: "Physicians should be prepared and expect to treat laryngeal diphtheria which usually present as an emergency. Although possessing intubation instruments, the physician may find himself without them in an emergency and be compelled to attempt tracheotomy. Non-instrumental methods of relief are worthy of more frequent trial, especially in institutional work and in those cases in which dyspnea is increasing slowly, exhaustion is moderate, cyanosis is not severe and the surroundings are favorable. Intubation may be performed in cases in which the symptoms indicate re-

cent and closely adherent membranes. It should be employed only when intelligent nursing may be had and when the physician is within easy reach. Every physician should be familiar with the technic of tracheotomy. The cadaver or lower animal may furnish opportunities in this direction. Tracheotomy may be more easily and safely performed by using the tenaculum hook for tension on the trachea, as described above; and by placing the patient in the position illustrated."

TWO SIMPLE METHODS OF APPLYING THE METRIC SYSTEM.

By MALCOLM S. WOODBURY, M. D., CLIFTON SPRINGS, N. Y.

The first method to which I shall refer has long been in use, but is so valuable as to be worthy of repetition, as it makes the prescription of all liquid preparations by the metric system absolutely simple to those accustomed to use apothecaries' weights and measures. One fact only must be remembered: 60 Cc. = 2 ounces.

The rule is this: *For two-ounce mixtures, prescribed in one-drachm doses*, prescribe as many grammes or Cc. of the drug as are desired grains or minims of the drug, to each drachm dose of the mixture. Thus, we wish to give a patient 10 grains of potassium iodide to each drachm dose. We write:

R

Potassii iodidi, 10.

Aquæ, q. s. ad 60.

M. Sig.: 4. (= one drachm) in water after each meal.

We wish to prescribe 10 minims of tincture of nux vomica to each drachm dose of a mixture which also contains the same amount of tincture of digitalis, with compound tincture of cardamom as vehicle. We write:

Tincture nucis vomicæ, 10.

Tincture digitalis, 10.

Tincture cardamom comp., q. s. ad 60.

M. Sig.: 4. (= one drachm) in water after each meal.

By using two-, four-, six-, and eight-ounce mixtures, and multiplying accordingly, the plan is most simple.

The second rule is probably not new, though I have not happened to see it mentioned. It relates to the compounding of

given quantities of solutions of given strengths. The rule is this:

To make a 1:1000 solution, use as many milligrammes of the drug as there are Cc. of the solution required. One must remember only that one ounce = 30 Cc.

Thus, to make one ounce (30 Cc.) of a 1:1000 solution, use .030 of the drug to 30 Cc. of diluent.

To make three ounces (90 Cc.) use .090 of the drug to 90 Cc. of diluent.

To make eight ounces (240 Cc.) use .240 of the drug to 240 Cc. of diluent.

On this basis a given quantity of nearly any of the ordinary strength solutions may be reckoned.

SPECIFIC REMEDY IN THE DIAGNOSIS AND THERAPY OF UROGENITAL TUBERCULOSIS.

Dr. Wilhelm Karo, *Munchener medizinischen Wochenschrift*, No. 37, 1909, records the treatment of urogenital tuberculosis both by the ophthalmo-reaction and subcutaneous injections of tuberculin, and reports a number of cases as to the beneficial effects and results obtained. He states that we are, at the present time, in doubt concerning the ophthalmo-reaction and its results are not definite and therefore we have no conclusion that we have tuberculosis in the urogenital system. As to the possibility of being misled by the ophthalmo-reaction, Dr. Casper, in the Society of Internal Medicine, 1908, reported a case of a woman who had pus in the urine, the source of which was proven by the cystoscopic examination. Upon the application of the ophthalmo-reaction a diagnosis of tuberculosis of the kidney was made. In spite of the painstaking clinical investigation they are unable to demonstrate the presence of tuberculous invasion in other parts of the body, and to his surprise, upon operation, did not find any sign of tuberculosis except twelve kidney stones.

Similar observations have been experienced by others and cases are also reported where the ophthalmo-reaction was negative, and upon operation the kidney was found to be tuberculous.

It was also observed in a woman 28 years of age, who since her childhood suffered from cystic catarrh of the bladder, and who was compelled to undergo an operation on account of the contractions of the bladder. In this case the ophthalmo-reaction was negative and upon operation the right kidney was normal

but, however, a typical miliary tubercenlosis of the left kidney was found in spite of the negative ophthalmalmo-reaction.

Another case occurred in a young lady who suffered of difficult micturition, often had pains in the left side, and also had pyuria; and in whom there was a suspicion of tubercenlosis on account of swelling of the left knee. The ophthalmalmo-reaction was negative. Upon cystoscopic examination the bladder was normal, and upon further examination tubercle bacilli were found in the left ureter. In all these cases tubercle bacilli existed in spite of the negative findings of the ophthalmalmo-reaction. Consequently the author states that we are unable to draw conclusions as to the diagnosis from the ophthalmalmo-reaction.

However, the author highly recommends tuberculin injections and he states that they are of great value for the diagnosis, and, moreover, it has proven of value in a large number of cases and, therefore, we can rely upon it.

He also reports that about three months ago a young girl who had for many years suffered from difficult micturition and pain in the region of the right kidney. Her urine was slightly turbid and contained tubercle bacilli. Upon cystoscopic examination the bladder appeared normal while the opening of the right ureter was slightly swollen. After a subcutaneous injection of 0.25 milligram old tuberculin the patient experienced pain in both kidneys which, however, was more pronounced in the left. At the same time the urine became more turbid and contained tubercle bacilli. After subsidence of the reaction he also catheterized the left ureter and found tubercle bacilli in the urine of the left kidney. Drs. Hoek and Birnbaum have found the diagnostic value of the subcutaneous method so beneficial that they have employed it constantly. Another case is reported in an eight-year-old girl in whom tubercenlosis of the right kidney was suspected. Under cystoscopic examination the bladder was normal except a slight ulceration of the right ureter. The right ureter was catheterized, and in the urine pus and tubercle bacilli were detected. The patient received thirty injections of old tuberculin (Koch) having the first injection concentrated, beginning with 0.0025 milligram old tuberculin and gradually increasing up to 10 milligrams. The result was splendid. The child gained eighteen pounds in five months. After six months the bladder was found healthy, urine clear and no tubercle bacilli.

The author advocates this treatment very strongly and that

a radical operation for urogenital tuberculosis should not be undertaken. He says: "Only remove the kidney when there is a strong reason for doing so. The tuberculin injections are also of value after the patients have undergone operation. These injections help to guard against new infection of the wound and of the bladder. Good results have also been obtained in the treatment of tuberculosis of the testicle."—*Monthly Encyclopaedia and Medical Bulletin*, November, 1909.

THE AFTER CARE OF OPERATIVE CASES.

It is a fact well established by hematologists, and well known to the surgeon, that a large majority of surgical diseases, requiring operative interference, are preceded, accompanied or followed by hemolytic changes. In addition to the more or less devitalizing effect of the original condition which brings the patient to the operating table, the necessary anaesthesia, if at all prolonged, reduces the hemoglobin percentage and the shock incident to the operation contributes, to a certain extent, to the surgical anemia. Hemorrhage, Suppuration or Spis, precedent to the use of the knife, of course intensifies the post-operative chlor-anemia and renders more than ever necessary the employment of hematogenic measures during surgical convalescence. Judicious but generous feeding is of prime importance in such cases and sedulous attention should therefore be paid to the patient's dietetic requirements. Feeding, alone, however, will not hasten recovery as rapidly as a judicious combination of feeding with a hematinic reconstituent such as Pepto-Mangan (Gude). Except in cases in which it is not permissible to introduce food or medicine through the mouth, this palatable, readily tolerable and promptly absorbable organic combination of iron and manganese is distinctly indicated in preference to other blood building agents, because it is agreeable, non-irritant and free from constipating effect. Its hematinic, appetizing and general reconstituent properties are quickly evidenced subjectively, by a general feeling of well-being; objectively, by increased color of skin and mucous membrane, and hematologically, by a progressive increase in the number of erythrocytes and percentage of hemoglobin.

Surgical Suggestions.

Much information concerning the nature of an injury to the elbow can be derived by comparison of the joints on both sides posteriorly, the patient facing away from the examiner.—*American Journal of Surgery.*

The presence of shreds in the urine is a presumptive evidence more useful to the surgeon who seeks the etiology of a monarticular inflammation than is the denial by the patient that he has had gonorrhea.—*American Journal of Surgery.*

If there is reason to believe that one is dealing with a sub-acromial bursitis, the presence of great tenderness on pressure over the humerus in the axilla should not be interpreted to gain-say the diagnosis—although such tenderness has not been described.—*American Journal of Surgery.*

If one fails to quiet a frightened, crying child sufficiently to determine the presence of a tender area, necessary to diagnosis, the administration of chloroform to the point of *primary* anesthesia will make the examination easy and, at this stage of narcosis, pressure on a tender spot will be answered by reflex movements.—*American Journal of Surgery.*

W. B. Saunders Company, the medical publishers of Philadelphia and London, have just issued a new edition—the thirteenth—of their handsome Illustrated Catalogue. It contains some twenty new books and new editions, and besides numerous black-and-white illustrations, there are two color cuts of special value. We strongly advise every physician to obtain a copy—sent for the asking. It will prove a ready guide to good medical books—books that we all need in our daily work.

Therapeutic Suggestions.

SYNOVITIS.—

Collodii cantharidatifl. oz. j

M. Sig. Apply several spots the size of a silver dime around joint, and when blister is formed, open and let out the fluid.

Indications.—This treatment to be repeated several times a week to cause absorption of fluid from joint in subacute and chronic cases.—*Ex.*

GASTRALGIA.—The following is recommended by Shoemaker:

Spir. chloroformdr. iv

Spir. ætheris comp.dr. vj

Tinct. capsicidr. j

Aq. dest., q. s. adoz. iij

M. Sig. Teaspoonful in water every half hour until relieved.—*Jour. Med. Society N. J.*

INFLUENZA.—To prevent nasal and aural complications, a small amount of the following may be introduced into the nares night and morning:

Resorcinigr. xv

Mentholisgr. ij

Petrolatidr. vj

If there is a dry cough, expectoration may be encouraged by the following:

Sodii benzoatisdr. j

Ammon. acetatisdr. ij

Spir. æther. comp.m xxx

Syr. aurantii flor.fl. oz. j

Codeinigr. iv

Aq.fl. oz. v

M. Sig. Three to four tablespoonfuls daily.

The following may be used as an inhalation.

Mentholisdr. j ..

Tinct. eucalyptifl. oz. j

Aq. coloniensisfl. oz. iv

M. Sig. A tablespoonful in a bowl of boiling water, inhaled by means of a funnel.—*Med. Press.*

DYSMENORRHOEA.

Chlorali hydratidr. j

Tinct. belladon. foli.tl. oz. ss

Fl. ext. viburni opulitl. oz. ij

Spir. vini gallici, q. s. adtl. oz. iv

M. Sig. One or two teaspoonfuls in hot water every hour until pain is relieved.

BOOK REVIEWS.

The revised edition of Dr. Hyde's book on *Skin Diseases* is a scientific treatise that every specialist and general practitioner ought to have before him. The etiology, symptomatology and pathology of skin diseases are written in the most excellent manner and judgment. The work is thoroughly complete and no skin disease overlooked. At a glance, one can see that the work was written by a master-hand.

Though scientific and up-to-date to the minute, it is written in such a happy and easy style, that a student will find it easy reading. The latest theories and classification of skin diseases are added. All new methods of therapy, as used here and abroad, are given. The use of electrical rays and vaccine treatment, and whatever results found by the author and his associates, are clearly commended or condemned.

Pellagra, brown-tail moth dermatitis and other new skin diseases are minutely and thoroughly described. It is to be regretted that Dr. Montgomery did not live long enough to render help as collaborator.

The fourth volume of the *International clinics* is full of the most interesting articles and essays. It could not be surpassed in the excellence of illustration, type and timely topics. It embraces the most interesting and new ideas. Prof. Flexner's article on antimeningitis is particularly noteworthy. Hamman's idea on using tuberculin in therapy of certain diseases is quite suggestive. Bierring's illuminating chapter on pernicious anaemia is something out of the ordinary. Pierre's Fredet's article on Fulguration in Cancer is the best of all of them. He makes it so plain, that any general practitioner can understand and utilize it.

In fact, every article is plain and scientific. We are glad to see the names of two Kentucky Doctors: H. Goodman, of Louisville, and C. Mapes, of Covington, whose essays show ability and science.

SURPRISED AND GRATIFIED.

In relating his experience in the treatment of gouty conditions, Dr. Arthus Bailey Francis, (Queen's College), Belfast, Ireland, reports the case of J. W. a gentleman in advanced life and of marked gouty diathesis who came under treatment complaining of severe pains in the lumbar region and extending down one leg to far below the knee. Dr. Francis says:—"I found that he had received a chill and was also suffering from catarrhal bronchitis. I diagnosed lumbago and sciatica, and put in force the orthodox methods of treatment one after the other, but with little benefit to the patient. Insomnia now became a cause of anxiety, bromides had little or no effect, and I was revolving in my mind the safety and advisability of morphia hypodermically, when it occurred to me to first try the effect of antikamnia and codeine tablets. This I did, ordering the tablet at bed-hour to be followed in fifteen minutes by a similar dose, and that also by a third at the expiration of half an hour from the administration of the last. On seeing the patient the following morning I was surprised and gratified to find that he had passed a quiet night, slept well, and that the pain in back and legs was greatly modified. I continued the administration of antikamnia and codeine tablets after this and before the end of a week the patient was quite free from pain, slept well, and was, in fact, convalescent. I should mention that this patient is seventy years of age, but notwithstanding this, I could detect no depressing effect on heart or nervous system consequent on the administration of these tablets.

"Since treating the above case I have prescribed antikamnia and codeins tablets for insomnia, lumbago, sciatica, neuralgia in all its forms including *tic-douloureux*, *hemierania*, and that due to dental caries, and always with the most satisfactory results."

Indication.—Used to relieve pain in spasmodic dysmenorrhea.
—*Ex.*

NOCTURNAL ENURESIS. — Williams, in *The Lancet*, reports the successful use of thyroid extract in cases of adenoids accompanied by nocturnal enuresis. He is unable to explain the effect of the thyroid extract, but suggests its trial by others in any obstinate cases of nocturnal enuresis.—*The Med. Standard.*

The purest, freshest cod-liver oil that money can buy, emulsified by a process that facilitates its digestion in a marked degree and enhances its palatability and stability, are the distinctive features of

HYDROLEINE

A time-tested, ethical emulsion of cod-liver oil

THE CHARLES N. CRITTENTON CO.,

115 Fulton St., New York

Sold by druggists

Sample with literature mailed to any physician on request

ABSTRACT.

INTRATHORACIC GOITER WITH REPORT OF CASES.

C. H. MAYO, A. M., M. D., D. L., L. D., SURGEON TO ST. MARY'S HOSPITAL, ROCHESTER, MINNESOTA.

The transposition of the thymus and lower poles of the thyroid when forming, possibly acts as one of the causes of intrathoracic substerna goiter.

These growths usually consist of diffuse colloid or encapsulated adenoma, and when they are completely detached from the thyroid they are aberrant or wandering.

Most of the symptoms occur from pressure upon the circulation, the trachea, nerves, or the esophagus.

These tumors are usually associated with an ordinary goiter, and probably one-half of them are discovered through complications arising during a thyroidectomy. As they are often encleaved with great difficulty, their removal may be followed by severe hemorrhage.


Intrathoracic pressure obliterates the space, therefore drainage should be brief.

Report of twelve cases. Six diffuse adenoma, six of encapsulated with one death from tracheal collapse due to a hypertrophied thymus of 56 grams in a patient with severe hyperthyroidism.—*Western Surgical*.

LA GRIPPE— ACUTE CORYZA.

W. T. MARRS, M.D., JEWETT, III.

What is the best method of aborting grippe or acute nasal catarrh? Several years ago a number of the leading medical men of the country were asked this question. The consensus of opinion was that the only appreciable way to shorten the duration is for the patient to go to bed and stay there until well. My observation prompts me to believe that sedation is more effective than stimulation. I can see no value in quinine. A vascular sedative, e. g., digitalis, aconite, does good. Calomel followed by a saline is very efficient at the beginning, Glyco-Thymoline in a 25 to 50 per cent. solution with water used with the K. & O. Nasay douche allays the congested mucous membrane of the nose and throat. It is alkaline, antiseptic and sedative, and always makes the patient feel more comfortable. When a more sedative action is desired, I often put a little menthol with the solution. The patient should be instructed to keep the naso-pharyngeal mucous membrane in a clean, aseptic condition, as it is doubtless during colds that many cases of tubercular infection occur.



K. & O. DOUCHE FOR THE APPLICATION OF
GLYCO-THYMOLINE TO THE NASAL CAVITIES

GLYCO= THYMOLINE

FOR

CATARRHAL CONDITIONS

Nasal, Throat
Intestinal
Stomach, Rectal
and Utero-Vaginal

KRESS & OWEN COMPANY
210 FULTON STREET NEW YORK

THE American Practitioner and News.

"NEC TENUI PENNÄ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, Ky.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, Ky., APRIL, 1910.

No. 4.

Editorial.

THE NEW CITY HOSPITAL.

Now that the City Hospital Bill has passed both Houses without a dissenting vote, has received the approval of the Governor, and Mayor Head, under its provisions, will appoint a bi-partisan commission to erect an institution worthy of Louisville, we hope the \$1,000,000 bond issue will be carried in the coming November election; and yet, past experience justifies a feeling of uneasiness and prompts the assertion that unless the physicians do their duty in systematically educating the public to the urgent need of our city, there will be no new hospital.

Physicians held in high esteem by their communities are capable of moulding public sentiment and promoting measures conducive to the general public welfare; nevertheless the charge is not infrequently made that they as a class are the most indifferent and derelict. The plea that he is too busy in the care of his patients does not exempt him of his obligations to a municipality whose protecting laws he enjoys, and in matters of health is his civic obligation even more plain.

Louisville's crying need of an adequate City Hospital has been long recognized, and the condition which shamed her pride—and for which no management can be reasonably blamed—makes her want imperative.

Lest what may now be a mere question of municipal pride becomes one of municipal crime, Louisville *urges—and has the right to expect*—every doctor to do his duty.

CONSENT TO OPERATE.

Damages, alleged to have been suffered in consequence of an abdominal surgical operation claimed to have been performed without consent, was the basis of a suit tried in the Jefferson Circuit Court last month against Dr. August Schachner and Dr. Frank J. Kieffer, to recover \$50,000. A verdict was returned for defendants.

Attention is here called to the case merely to emphasize the great importance of a clear understanding between patient and surgeon before an operation. A supra-abundance of caution in this particular may spare the surgeon the embarrassment of litigation—and then *sum* (spelling phonetically.)

Permission given by an adult patient is all that is required to make the operation lawful. In the case of a wife the consent of the husband is unnecessary and the operation may be legally performed even under his protest. A case in point is *State, use of Janney vs. Housekeeper and Gifford* (Vol. 70 Maryland, p. 162), in which the husband testified that he was under the impression that the operation upon his wife was for the removal of a tumor from the breast and that he had stated to the physicians that, if the growth in the breast was a cancer, he objected to its removal. Evidence was introduced indicating that the wife knew the growth in her breast was a cancer.

Mr. Justice Yellott, in delivering his opinion said: "When the doctors came to the house, she (the patient) had already prepared herself to undergo the operation. If she consented to the operation, the doctors were justified in performing it, if after consultation they deemed it necessary for the preservation and prolongation of the patient's life. Surely the law does not authorize the husband to say to the wife, 'You shall die of cancer; you cannot be cured, and a surgical operation, affording only temporary relief, will result in useless expense.' The husband has no power to withhold from his wife the medical assistance which her case might require." A husband's power to prohibit such medical assistance would imply his right to her life.

The consent of a patient mentally incompetent however, is not sufficient for the surgeon's self-protection; he must obtain the consent of the person in legal control of the patient. In the case of an insane wife the consent of the husband is probably not enough; her insanity must be legally declared after judicial inquiry and the consent obtained from the committee appointed by the court.

Consent to operate need not necessarily be expressed—it may be implied from the circumstances. Thus, when a soldier goes into battle with the knowledge beforehand that the army surgeon is to have charge of the wounded, it might perhaps be considered an implied license for such operation as the surgeon finds necessary to perform.

When one summons a surgeon to attend him and submits to an operation it is presumed that he voluntarily yields,—however, consent is not always so easily implied as is illustrated in a case litigated in England some years ago (*Beatty vs. Collingsworth*). A renowned London surgeon attending a woman, engaged to be married, upon whom an ovariectomy was proposed, was told by her that if on operation he found both ovaries diseased he should not remove either. “You must leave that to me,” the surgeon said,—but this reply the patient denied hearing. At the operation, finding both ovaries diseased, he removed both. When informed what had been done the patient broke her matrimonial engagement and brought action for damages.

In the trial of the case, the jury was instructed by Mr. Justice Hawkins, that the surgeon had the plaintiff's tacit consent to perform the operation, whereupon the defendant was given a verdict.

The Central Law Journal (Vol. xlv. p. 153), commenting on this case says:—“The action of the court in this case has met with very general criticism upon the ground that the facts, involving a direct prohibition, would seem to exclude the possibility of implying consent. As a contemporary says, it is one thing for a surgeon to refuse to operate unless unlimited discretion is confided in him, and quite another thing to deliberately disobey instructions.

Undoubtedly the defendant's wisest course would have been to refuse to operate unless the scope of his authority was agreed upon in advance.” (Italics ours.)

If, during an operation to which consent has been given, the surgeon is confronted by unforeseen conditions which, in his best judgment, would endanger the life or health of the patient, he is legally justified in removing or repairing those conditions—though no express consent was obtained. But permission obtained to do one operation does not give the surgeon a legal right to perform another (a second one) and to do so without consent is wrongful and unlawful.

Original Communications.

THE ANAL CANAL AND ITS DISEASES.*

BY G. S. HANES, M. D.,

*Professor of Proctology in the University of Louisville,
Louisville, Ky.*

The anus, or anal canal, are terms we use when reference is made to the inferior opening of the alimentary tract. Apart from the fact that either of these expressions indicate such an opening, little has ever been said. The fact is that the terminal portion of the intestinal tract is ordinarily thought of as an orifice and not as a definite canal, with physiological functions and anatomical relations of equal importance to that of any other division of the alimentary tract. That which most authors have said about the anus has been in an incidental way, as they have had occasion to associate this division of the gut with their elaborate discussion upon the many absorbing features of the rectum. Why this state of affairs should exist, I am unable to say, except it be another conspicuous illustration of our immutable disposition to follow the suggestions and teachings of those in whom we have had such an abiding faith.

When one has slowly, carefully and thoughtfully introduced the index finger through the anal canal and into the rectum, no argument will be necessary to convince him that the anus is not an orifice, but a well-defined canal with very important anatomical relations. Symington's descriptions, in which he places the upper opening of the canal at a point where the bowel perforates the pelvic diaphragm, and the lower being the external orifice of the

*Read before the Louisville Clinical Society.

anus, indicates certainly the rational and logical limitations of the lower portion of the gnt. The length of the anal canal is equal to the thickness of the perineal floor. It is the perforation of the pelvic diaphragm by the intestinal tract, and is the terminal division of the alimentary canal. If the perineal floor is thick, the anal canal is necessarily long; on the other hand, the canal is short if the pelvic diaphragm is thin. In heavy individuals, especially where there has been long-continued irritation of the anal muscles, the anus may be an inch and a half in length; on the contrary, it may be much less than an inch in length in thin and delicate women. It is interesting to note that the axis of the anal canal is almost at right angles to that of the rectum, the direction of the rectum being downward and forward and that of the anus downward and backward. It should not be forgotten, then, that the introduction of any object through the anus should be in the direction towards the symphysis pubis, and when the rectum is approached the object should be turned to almost right angles in a backward direction.

The muscles that enter into the formation of the pelvic floor and control the action of the anal canal are very complex, which, no doubt, is due to the fact that some of these muscles had important functions to perform in animals provided with tails, and are now, in a measure, vestigial remains, in man and the higher apes, where no such function is required; modification having been brought about by the erect posture. A much more complete and accurate study of the composition of the pelvic floor have been made since it is possible to freeze specimens, or harden them, by formalin. The muscles that control the action of the anal canal compose its walls. They are lined or covered on their inner surfaces by mucous membrane and submucous tissue in the upper portion of the anus, and by modified skin in the lower portion. It is these structures covering over the inner surfaces of the anal muscles, in which we have the origin of many diseases that have long been referred to as rectal diseases. They are not rectal diseases. They are situated below the termination of the rectum and do not involve its anatomy. The fact is that rectal diseases occur

very seldom in proportion to the frequency of anal diseases.

In enumerating some of the pathological conditions that occur in the anal canal, I mention piles as being of most importance. The superior hemorrhoidal artery, which is a continuation of the inferior mesenteric, divides into right and left branches when at the upper portion of the rectum. These two divisions soon break up into a number of similar branches and anastomose freely around the circumference of the gut, and then pass on through the muscular coats to the submucous coat of the rectum, where they end in a number of terminal branches which descend vertically to the pectinate lines. The entire mucous membrane of the rectum is supplied with blood from the superior hemorrhoidal artery. The terminal branches of this source of blood supply we now see are situated in the submucous tissue in the upper portion of the anal canal. It is important that we do not lose sight of the fact that, at this point, the blood vessels reach their minutest dimensions, their walls are most delicate in structure, and the columns they support exert a maximum amount of back pressure. It is, therefore, not difficult to see that the earliest manifestations of circulatory disturbances would naturally occur in this region. Observation has proven that this is true. Internal piles have their origin in this anal area where the circulation is disturbed primarily by dilatation and thrombosis of the delicate veins. Piles are, then, pathological manifestations in the anal canal and not in the rectum. If there should be any disturbance in the way of tumor formation in the rectal circulation, it would be due to extensive dilatation of the vessels into the lowest portion of that organ. If the plexus of delicate veins situated in the upper portion of the anal canal has only a slight, or no, anastomatic communication with the inferior plexus of veins, there will most likely be no external signs of tumefaction, but if there is anastomatic communication, consequent dilatation of the inferior group of muscles will occur, and tumors involving both plexuses—compound tumors—are observed. I have often inverted patients and introduced a short proctoscope and, with the obturator removed,

have observed the lowest portion of the rectal walls thoroughly dilated by atmospheric pressure. I have then requested the patient to strain and there was never any evidence whatever of pile tumors presenting themselves. The mucous membrane of the rectum easily prolapses into the proctoscope, but there was no evidence of dilatation of the blood vessels.

Internal piles, or rather the pathology from which they arise, can be only poorly palpated, if at all, when the anal muscles are in their natural contracted state. The contracted muscles express the blood from the dilated vessels and, therefore, the tumor effect is obliterated. If the dilated blood vessels were in the rectal wall, there would be no muscles present capable of producing such effect, and, therefore, the tumors could be palpated. When there is evidence of internal piles that can be detected by palpation, that is, by observing thickened longitudinal folds in the anal canal, no accurate estimate of the degree of dilatation can be had until the tumors are prolapsed below the contractile influence of the sphincter muscles. In many cases there is extensive dilatation with no internal evidence. I wish to state positively, that external skin tags or piles, as they are called, have their beginning from a disturbance of the circulation higher up in the anal canal. They are absolute ear-marks of present or past interference with the circulation in the anal canal. Of course, I exclude such conditions as those due to hypertrophy of the peri-anal skin folds from injuries, blood clots, irritating discharges, etc. When the pile-bearing zone in the anal canal has been completely removed, as is done in an operation for piles that involve the entire circumference of the upper portion of the anal canal, there can be no recurrence. In those cases where such tumors are supposed to recur, the tumors have not reappeared but have developed where the plexus of the veins has not been destroyed. Hemorrhoids represent a pathology that belongs to the anal division of the alimentary tract.

FISTULA.

From an etiological standpoint, fistulae belong to the list of anal diseases. It is generally understood that ab-

scesses responsible for fistula in this region are the consequence of some traumatism by external violence, the careless introduction of instruments, syringe tips, etc., or the passage of some foreign body through the rectum with the fecal discharges—fragments of bone being the most frequent. That such causes of abscesses exist there can be no doubt, but that they are at all frequent cannot be proven.

The majority of patients who have had rectal fistula can give no history that in any way relates to these supposed etiological influences. After having seen many of these cases my suspicions became aroused, and I felt sure that there must be some other factors exerting an important influence in the cases I observed. It is scarcely necessary for me to refer to the fact that the terminal divisions of the alimentary tract offer most favorable conditions for the development of a large variety of bacteria. Dr. Render, our assistant, has made cultures in a large number of cases where we have found this diseased condition in the anal canal, and has always found, in vast numbers, either streptococci, staphylococci, or colon bacilli. The diseased condition found in the mucous membrane of the anal canal affords an atrium through which various bacteria can pass out in the cellular tissue external to the anal muscles. It is at the pectinate line, which is the junction point between the rectum and proctodeum in foetal development, that the circulation is poorest, and it is here that disease most frequently occurs. Just below this line there is a space that exists between the external and internal muscles, and it is at this point that infection most frequently finds its way into the surrounding structures. In view of the fact that few patients give histories of traumatism, that there is great proneness to disease of the anal tissues, especially near the pectinate line, and that pathogenic germs are always present in this region, I am confident that most abscesses of the rectum have their etiological source from the anal region I have above described.

PRURITIS ANI.

There are few subjects more prolific of conditions that admit of elaborate discussion than pruritis ani. Almost

every illness known to human flesh has been, by some one at some time, held responsible for the presence of this disease. We know many causes for itching about the anus, but the particular kind of pruritis to which I refer is the intolerable and intractible type; what has been called pruritis ani essentialis, a disease without a pathology—a disease that tenaciously resists all forms of treatment, local constitutional, and surgical. To occupy space in calling attention to its extraordinary influence upon patients is unnecessary, but I will say that there is scarcely any disease that can more completely demoralize the nervous system or wreck the health of patients than anal pruritis. It can be surpassed by no affliction in the production of bodily discomfort and mental distress. The one point which I wish vigorously to contend for in the discussion of this subject is that there is no such condition as pruritis ani essentialis but that every case of itching of the type to which I have referred has a pathology located in the anal canal. That it is due to constitutional affections—as rheumatism, gout, malaria, etc., or to the reflexed conditions of a pathology located elsewhere is in my opinion a myth. If this were true why is it that those affected with the above conditions do not also have pruritis. I have never seen an intolerable case of pruritis complicating any of the diseases mentioned. You ask why it is that this pathology has not been found to exist in the anal canal if it is the real cause for intractible pruritis. I would answer by saying that the anal canal is by far the most difficult portion of the lower gut to examine. Why this is true can easily be seen. There are a number of muscles surrounding the anus whose function it is to keep this canal tightly closed. Any foreign contact with the parts in this locality always have the effect of producing contraction of the muscles. When the patient is not thoroughly relaxed by an anesthetic every muscle resists the invasion of the anus and it can not be thoroughly opened for inspection without subjecting the individual to intolerable pain. When the finger is introduced into the anus and no pronounced trouble is made out it is concluded that no cause for itching exists in this part. These patients are not anesthetized and

the canal opened to its full capacity, removing all the longitudinal folds that exist on account of the puckering effect of the anal muscles. It is for this reason that the pathology of pruritis ani is not made out. There can be no greater error than the belief that the entire pathology of the anal canal can be revealed by ordinary digital examination. The anus must be opened to a capacity sufficient to receive a large rectal dilator before all the longitudinal corrugations are obliterated. It is impossible to palpate this surface when it is made so uneven by complete or semi contraction of the anal muscles. I have seen many cases where the anal canal was gently and slowly dilated to the extent that the surface was smooth and also appeared to be in a healthy condition.

When, however, a little tension was added the superficial structures would often give way at one or more points, especially in or near the posterior commissure and no little pathology revealed under a comparatively healthy surface. I have never seen a case of intractible pruritis ani that did not have a pathology in the anal canal that would account for its presence. The various methods of treatment fail to cure because the remedies are applied to the perineal tissues while the seat of the disease is left untouched. Failure follows such treatment and in the dilemma of not knowing which way to turn all kinds of untenable theories as to the cause of pruritis have been advanced.

While in my office to-day, a doctor came in for advice about some rectal disturbance. He had complained of itching around the anus for three or four years. Skin tags had developed in the meantime but had been removed. The itching, however, continued. He had slightly enlarged perineal radiating folds of skin due to moisture and scratching. There was no external evidence whatever of any cause for this itching. When the finger was introduced the anal canal was found to be very tight. A slight roughness could be made out along the posterior and lateral aspects. Ordinarily it would be interpreted to signify nothing, but when an instrument was introduced and the canal well opened the real diseased condition was easily observed. The mucous surface was rough, con-

gested, and covered over with many hemorrhoidic spots about the size of a pin's head. He had used many salves, powders, and washes with only temporary relief. He had seldom, if at all, applied any of the remedies to the region where the pathology existed. I could recite one case after another with similar histories and results following treatment.

Such cases of pruritis ani can be cured. Most can be cured by local treatment. A number of surgical operations have been devised and practiced for the cure of pruritis ani. They have, in most cases, dealt with the perineal tissues and, therefore, left the cause of the disease unmolested. I have operated on a number of patients who have had obstinate itching with uniformly good results. It is absolutely a rational operation to dissect out the diseased mucous membrane and bring down the healthy mucous membrane and suture it to the skin below. If the diseased anal tissue is not dissected out local applications, irrigations, etc., must be made to these parts directly. Relief can often be had very promptly, but an ultimate cure will require faithful and persistent treatment for months. If the type of pruritis to be dealt with has been proven to be very persistent it is far better to resort to surgical measures. It is my firm conviction that every case can be cured by resorting to surgical procedure I have suggested. I have never seen a case where it has failed. Milder cases can undoubtedly be cured by direct local measures.

ANAL FISSURE.

This lesion is ordinarily understood to be a longitudinal crack or narrow ulcer in the anal canal. It is not generally suspected that the narrow lesion that can be brought into partial view by ordinary methods is usually the extension of, and signifies the existence of a pathological condition higher up on the anal canal and involves much of its surface. In fact it is in recent cases where some traumatic injury has been done to the parts that such lesions are confined to very narrow limits. There is infection and extension in all chronic lesions in the anus.

In most cases where the patient gives a history of a fissure occurring at the time of defecation there is an unhealthy condition of the structures lining the anal canal which makes such an accident possible.

There are many other diseases of the anus that occur with much less frequency than the ones I have mentioned in this paper.

My object in this paper has been to make prominent the fact that the large per cent. of so-called rectal diseases are in reality affections of the anal canal or that they are secondary to diseases originating in this locality.

DIABETES MELLITUS.*

BY B. F. ZIMMERMAN, A. B., M. D.,

Professor of Medicine and Clinical Medicine in the University of Louisville.

Diabetes mellitus is a disturbance of nutrition in which the metabolism of the carbohydrates is primarily compromised; later, that of the fats, and finally, in the later stages of the disease, excessive proteid destruction occurs. In order that we may formulate any general rules or principles regarding the dietetic treatment of diabetes mellitus, it is necessary that we understand the nature of the metabolic disturbance which is present in the disease.

The carbohydrates are more perfectly utilized in the body than any other class of foodstuffs. Under normal conditions, there is scarcely a trace of digestible carbohydrates in the stool, and no sugar escapes in the urine. The reason for this perfect utilization is to be found in the ease with which these substances are acted upon by the digestive ferments and the facility with which they are oxidized when once absorbed from the intestinal tube.

The carbohydrate group of foods includes the monosaccharides, the disaccharides, and the polysaccharides.

*Written for *The American Practitioner and News.*

The monosaccharides are the "physiological" sugars; that is to say, it is only in the form of monosaccharides that the carbohydrates can be utilized by the tissues. Most of the carbohydrates are introduced as disaccharides. These are acted upon by the diastatic ferments in the saliva, the pancreatic juice, and succus entericus, and converted into monosaccharides. A part of these changes probably take place during the process of absorption. The end products of intestinal digestion are, therefore, the monosaccharides; namely, glucose, levulose and, probably, galactose. These are taken up directly by the portal circulation and carried to the liver. Here, by a process of dehydration and polymerization, glycogen is formed, and the excess above what is needed for immediate consumption is stored in the liver and muscles. The origin of the muscle glycogen is not definitely known, but it is supposed to result from glucose which is carried there by the blood stream. The liver can store 14 per cent. of its weight in glycogen; it is estimated that the entire voluntary muscular system can warehouse about the same quantity as the liver. During a period of fasting, or in the event of absolute withdrawal of carbohydrates from the diet, the liver gradually gives up its store of glycogen, and later, but much less readily, the muscles do the same thing.

The carbohydrate in food is not the only source of glucose, as it is well known that a considerable amount of this substance can be formed from the carbohydrate molecules of proteoid substances. Thus, proteoid food becomes a source of sugar. Destruction of the tissue cells may likewise give rise to it. This is an important point to remember in the treatment of diabetes; for, in severe cases, where the tissues are no longer able to utilize the carbohydrates supplied by food, disintegration of the proteoid molecules of the cells themselves occurs, leaving a rapid loss of weight as the result of excessive tissue destruction. It is believed that glycogen, by a process of hydrolysis, is converted into glucose before it can be utilized by the tissues; no matter what the original source of the glycogen, whether from glucose, levulose or galactose, this hydrolysis always gives rise to glucose. A deviation from the

above generally accepted opinion is found in the metabolic theory of carbohydrate metabolism, which supposes the sugar molecules to be first combined with proteids and subsequently split off therefrom. In health, the amount of glucose in the blood varies between 0.1 and 0.2 per cent., and any material increase leads to a hyperglycemia and elimination of sugar in the urine. The manner in which this definite percentage is maintained has not been positively determined.

The exact method by which the carbohydrates are oxidized is still a mooted question, but it is probably effected by the mutual action of substances secreted in the pancreas and muscles. Complete oxidation of glucose forms carbon dioxide and water with evolution of heat and energy; intermediate products glycuronic and lactic acids.

Fats seem to be formed from carbohydrates with facility. This is probably effected by decomposition and reduction, with subsequent syntheses of the products of reduction. It is a well known fact that carbohydrate combustion is essential to perfect fat metabolism, and in its absence there is imperfect oxidation of fat which gives rise to the intermediate products in fat metabolism; namely, beta-oxybutyric acid, diacetic acid and acetone.

CAUSES OF GLYCOSURIA.

We have stated that, normally, blood sugar is present in quantities ranging from 0.1 to 0.2 per cent. and, under such circumstances, there is no escape of sugar in the urine. Pathological glycosuria may occur (1) when there is increased permeability of the renal epithelium without an increase in blood sugar; (2) when there is an increase above the normal of blood sugar, even though the renal epithelium be perfectly normal. This increase in blood sugar may be due to over-production or under-consumption, but, in cases of true diabetes, it is probably under-consumption as a result of the inability of the body to oxidize sugar and of the liver to store glycogen. Glycosuria from increased permeability of the renal epithelium is practically only an experimental form. It is very

readily produced by the administration of phloridzin. In this form the so-called renal type there is no increase, but in some cases an actual reduction, in the amount of blood sugar. It is transient and true diabetes never results in such a condition. After ingestion of a large quantity of sugar in a brief space of time, hyperglycemia may result, and glycosuria is thereby produced. This is the so-called alimentary type. In these cases there is not defective carbohydrate metabolism, but simply an excess of sugar above the normal, immediate requirement, and the ingestion has been so rapid that the excess cannot be converted into fat.

An excess of starch may also cause an alimentary glycosuria, but less readily than will sugar. Injuries to, and diseases of, the central nervous system give rise to glycosuria, and, in some cases, apparently a true diabetes. This probably results from a vasomotor disturbance in the circulation of the liver, whereby the glycogen is readily released and converted into sugar in unusually large quantities. Thus, following cerebral apoplexy, and in cases of tumor of the cerebellum pons and medulla, also injuries to the base of the brain often give rise to glycosuria. Experimentally, the administration intravenously of large quantities of adrenalin chlorides will produce a transient glycosuria. This probably results from the reducing action of the adrenalin upon the pancreatic cells, abstracting their oxygen, thereby interfering with the liberation of those substances which seem to be necessary to perfect carbohydrate metabolism.

At the present time it is believed that most cases of true diabetes are the result of some disease or disturbance of pancreatic function. It has long been known that diabetes is frequently associated with diseases of the pancreas, and it has been experimentally shown that removal of the pancreas is followed by rapidly fatal diabetes. The latest researches in the study of the pancreas and its relation to this disease seem to indicate that the lesion which are responsible for this disturbance of carbohydrate metabolism are destructive changes in the Islands of Langerhans. The studies of Conheim would seem to indicate that a substance is liberated in the pan-

creas, which, in conjunction with certain substances produced in the muscles themselves, is capable of causing a destruction of the carbohydrate molecule. Conheim is of the opinion that this is not a ferment, but a substance which probably acts as an amboceptor. According to his view, it is to be classed with such substances as thyroidin, adrenalin, etc. The pancreatic substance, or the juices of the pancreatic substance, are not in themselves capable of bringing about this transformation; neither are the substances obtained from the muscles able, independently, to do it; but, if to the solution of muscle tissue and carbohydrates there be added some of the pancreatic substance, a rapid destruction of the carbohydrates occurs.

THErapy.

It will be seen that, in this disease, metabolism is seriously compromised, and that the disturbances are of a highly complicated nature. No theory has as yet been advanced that satisfactorily accounts for all the facts, and the causal pathology has, in many instances, been very meager; consequently, an ideal therapy is not at the present time possible. We must treat symptomatically.

The most constant single symptom of the disease is glycosuria, and the changes affecting the degree of this symptom, taken in conjunction with the presence or absence of ketonuria, and the maintenance of the body weight, is the criterion by which we are to judge the efficacy of our treatment.

The first question that naturally presents itself is: Can we increase carbohydrate metabolism? The answer, at the present time, is that, in the majority of cases, we cannot. The administration of the various pancreas preparations has, in the hands of most observers, been disappointing. Some good can possibly be accomplished by their administration in those rare cases where the internal secretion of the pancreas has been abolished. In this case the good results are obtained by supplying those ferments which are necessary to proper digestion of food

stuffs in the intestines. It is extremely improbable that they exert any influence on the metabolism.

We turn, then, to the second alternative: Can we limit carbohydrate metabolism in order that the organ, or organs, involved may obtain rest and a tolerance be thereby established? Here we can answer in the affirmative. This is done by selection of the proper diet. While the disappearance of sugar from the urine is an index of the efficiency of our treatment, it is, in reality, not the ultimate goal for which we are striving; what we really attempt to do is to abolish the hyperglycemia. We know that many of the symptoms are due to hyperglycemia, as the pains, neuritis, furunculosis, gangrene, etc., but of infinitely greater importance is the fact that excessive sugar in the blood increases the disturbance of metabolism, and a circlous vitiosus is thereby established. We know that hyperglycemia persists longer than the glycosuria, and that a tolerance for carbohydrates is not obtained until the blood sugar is reduced to the normal.

What are some of the principles to guide us in the selection of a proper diet? There are three points to be considered in this connection: first, the maintenance of the body weight; second, reduction of the glycosuria (hyperglycemia); third, the prevention of acidosis.

It is necessary that the body weight be maintained and, if there has been much emaciation, that it be increased. To this end, we watch the patient very closely, and weigh him at least once a week. Rigid diet may abolish the glycosuria, but, on the other hand, it may be attended by diminution in the weight of the individual. This is not rational therapy. We are reducing the carbohydrate intake at the expense of the proteid substances of the tissue cells. A gradual loss in weight, with absence of glycosuria, will usually be benefited by the addition of carbohydrates to the diet. It is better that the patient eliminate a certain amount of sugar in the urine and maintain his weight, than that he should lose weight in order to obtain urine that is free from sugar.

Second, reduction of the glycosuria. At first, a diet containing a very small quantity of carbohydrate is administered and the effect upon the glycosuria noted. With this test diet, in the average case, the glycosuria will be

markedly reduced or disappear at the end of four or five days; in mild cases it will almost certainly disappear. By this method the tolerance for carbohydrate is established. If upon this rigid diet the glycosuria is not materially reduced it indicates a very severe type of the disease, and persistence in this diet will almost certainly, in a short time, be attended by the presence of acetone bodies in the urine, accumulation of these substances in the body, and imminent danger of acid intoxication and diabetic coma. If the glycosuria disappears without the appearance of these substances in a great quantity, carbohydrates are gradually added to the diet until the point of tolerance is reached, the index of which is glucose in the urine. If, under this modified diet, the absence of glycosuria and the body weight can be maintained, the outlook is favorable. The introduction of occasional fast days when all carbohydrates are eliminated from the diet, or the so-called vegetable days, where, for two or three days the patient is kept upon a vegetable diet with a very low carbohydrate content, rest for the diseased organs is secured and tolerance for carbohydrate is increased. Under certain circumstances, apparently the body will care for one form of carbohydrate and is unable to utilize another. The success, in the hands of some men, which attends the administration of oatmeal, probably depends upon this principle. In parenthesis, we might say that the oatmeal diet, in the hands of a great many, has been a disappointment.

Another means of securing rest for the diseased organs is by the administration of medicines which have a quieting effect upon the central nervous system. It is probably in this manner that many of the medicines, which have been heretofore employed in the treatment of this condition, act.

The third question, the prevention of acidosis, is one that should always be considered. The substances responsible for this condition are supposed to be beta-oxy butyric acid, diacetic acid and acetone, and the evidence at the present time seems to indicate that, of these three substances, beta-oxybutyric acid the most important. These substances result, for the most part,

from the imperfect oxidation of fat. It has been seen that complete combustion of the fats depends upon the ability of the body to burn a certain amount of carbohydrate, and when it is unable to do this these substances make their appearance in the body and give rise to the condition known as acidosis. Acidosis is supposed to be the cause of diabetic coma which is so often the fatal termination of this disease. If, for instance, the case is one of unusual severity, with the presence of a considerable quantity of beta-oxybutyric acid in the urine, or there be any symptoms of approaching coma as manifested by drowsiness, then a rigid initial diet, such as mentioned in the last paragraph, would be extremely dangerous, and would be very liable to precipitate an attack of diabetic coma. In these cases the tolerance for carbohydrates is almost completely abolished, and it is for this reason that these substances appear in the urine. If, now, we eliminate from the diet all traces of carbohydrate, still further disturbance of fat metabolism is produced, a greater excess of acetone bodies results, and a fatal coma develops. In the dietetic treatment of diabetes, if there be any reason to suspect the advent of coma, carbohydrates should be added to the diet, fats should be eliminated from it, and especially those fats containing the lower fat acids which very readily produce beta-oxybutyric acid (butter etc.) In addition to this, large quantities of sodium bicarbonate should be administered, which acts, first, chemically, to neutralize the acid present in the body and thereby prevent the extraction of the fixed alkalies from the tissue cells; and, secondly, it is a very active diuretic and increases the elimination of the acetone bodies. It is often possible to prevent an attack of diabetic coma by observing these facts. It is, indeed, possible to relieve the condition of coma after it has actually developed by the administration (preferably intravenously) of large quantities of sodium bicarbonate. But the success of any treatment of diabetic coma consists rather in its prevention than its cure after it has once developed.

Age is an important factor in determining the prognosis in a case of diabetes. It is a well known fact that, in young individuals, the disease often runs a rapidly

fatal course. There seems to be great difficulty in establishing any degree of tolerance to the carbohydrates, while the reverse is true of those patients past the middle period of life, and, particularly, those with a tendency to obesity. It is not an uncommon occurrence to see these patients live for years without any material discomfort, even though eliminating considerable quantities of sugar in the urine. The explanation is that tolerance to the carbohydrates, while impaired, is not entirely gone, and that a sufficient quantity is oxidized to insure perfect metabolism of fat and to protect the proteid molecules of the tissue cells.

THE TIME TO OPERATE IN PERITONITIS.*

BY FRED. L. KOONTZ, M. D.
Louisville, Ky.

I have propounded a question here that is exceedingly difficult to answer. Surgeons have been asking this question of each other for a good many years and now the general practitioner is asking it of the surgeon. Is there a consensus of opinion among the surgeons and have we anything definite to teach? This question I will answer in the affirmative, guardedly.

Certain things have come to be recognized as established facts and upon which surgeons are practically agreed, such as: the better chance of success in the interim operation, the attenuation of virility by time, the subsidence of inflammatory thickening and the resolution and removal of septic deposits by nature.

Upon these points, there is a consensus of opinion but that vital question; when to operate, still confronts us and like the Egyptian Sphinx, stares us vacantly in the eye and refuses to be interviewed.

The prime object of my paper is to inquire whether we know or can know when to operate in these conditions

*Read before the Louisville Society of Physicians and Surgeons.

or whether we are mere guessers, some guessing correctly more often than others.

Granting that there is an element of luck in it, still there must be a form sheet of past performances from which we ought to be able to judge the future.

In order to deal more succinctly with the question I want to classify the subject into:

(a) General peritonitis due to infections of the appendix and other abdominal causes.

(b) Peritonitis of tubercular origin, and—

(c) Pelvic, of which there should be three clinical classes, viz; (1) Gonorrheal, (2) Streptococcic, (3) A composite class made up of the staphylococcus, the colon bacillus and the bacillus aerogenes capsulatus.

Before entering into the discussion of the time to operate, I want to direct your attention and freshen your minds upon a few phases of the subject upon which hangs the answer to the question I have propounded.

Proposition A

All forms of peritonitis may subside and a permanent cure be brought about without surgical intervention.

Proposition B

The virulence of infection becomes attenuated and even pus may be absorbed and removed through the lymph channels in time.

The consideration of the first proposition raises the important question as to whether we should operate at all. In dealing with this momentous question successfully we must needs be keen diagnosticians, for in proportion as we are able to learn the cause, are we able to deal intelligently with the condition.

In the male this difficulty is somewhat lessened for the large majority of cases of general peritonitis are appendiceal in origin. We have learned by experience long ago in this country, and are being again reminded by the frequent experiences of foreign surgeons, that to open the abdomen in appendix cases, complicated by general peritonitis, is almost surely fatal, while if left alone, are almost equally certain to prove fatal.

Notwithstanding the high mortality in these cases, I believe that safety lies on the side of non-interference. Impending dissolution often stirs the gambling element in us, however, and makes us take a chance.

Should the peritonitis subside in a given appendix case, I would advocate following what I shall term the minimum rule, viz: the shortest possible time for attenuation of virus to occur. My rule in such cases is to operate as soon as the peritonitis has subsided and the temperature reached the level. Waiting for further subsidence in these severe cases is dangerous. This class of cases is the exception to the rule I would advocate in general.

Cases of upper abdomen peritonitis present less grave conditions to this. The only different in the management of cases of peritonitis from the upper abdomen, in contradistinction to appendix cases, is that if we can, with reasonable certainty, exclude the appendix, we can with more safety, wait longer for attenuation and subsidence.

Proposition B

Unquestionably, the majority of all cases subside with restoration of function. "It is not an infrequent sight to see a puerperal woman light up with a powder flash of peritonitis with her pelvis choked with cellular exudate and within a few weeks see the exudate disappear entirely and that same woman within a year again become a mother." (Simpson.) These cases are undoubtedly explained by the variety of infection. The *casus belli* being one or more of the following organisms: the colon bacillus, bacillus aerogenes capsulatus, staphylococcus, and unquestionably a surprising number of gonorrheal cases.

The older teaching of the inevitable destruction of tubes and ovaries from gonorrheal infection must needs be modified. I must confess that statistics on this subject are meagre and for well known reasons, viz; that in the vast majority of cases of gonorrheal infection, what the gonococcus has failed to do, the surgeon finishes.

Now, don't misunderstand me to say that gonorrheal pus tubes should not be removed. There is a class of cases where it is the only relief for the patient. But have we been toting absolutely fair with Mr. Gonococcus?

Hasn't he been convicted of murder in the first degree rather than upon a charge of manslaughter?

I venture to predict that if ever a carefully tabulated series of cases of gonorrheal infection in the female is carried out for a period of ten years without operative interference, that a percentage greater than twenty-five will become pregnant provided they are willing to take the chance.

We know of course, that the gonococcus is slow and insidious and that he comes like a thief in the night. (this meant literally as well as figuratively), and that many times, like the thief, his presence is not suspected until he has penetrated "rugae, plicae, and quivering lavatories," and has placed his pilfering fingers upon the very ovary itself. But granting such an unfortunate state of affairs to exist, is it hopeless for the woman? Must she give up all hope of future childbearing?

I have seen undoubted cases of gonorrheal infection followed by pregnancy after a long period of sterility. This fact coupled with the well known tendency toward chronic invalidism rather than death, answers the question in regard to this class of cases. That peritonitis here is less severe and less fatal, I think you will all grant. In view of the future possibilities I would place in operation here the maximum rule, i. e., the longest possible time before operation in cases of proven infection.

Streptococcic cases:

These cases present difficulties peculiar to themselves. It is here that we see the fulminating explosive type of cases with paralytic obstruction and rapidly fatal results. Nor can we figure on attenuation and safety in cases of this origin as we can on others. Granting that streptococcic peritonitis subsides as it sometimes does by lymph blocking and protective barring with diminished signs that point to overthrow of the infection, we should still consider that the patient is never safe, as leakage at any time may set up a fatal peritonitis. It is in this class of cases that we find peritonitis, obstruction and death following an interval operation. Let this emphasize the importance of determining the nature of the origin. As

many of the cases that come to the surgeon are acute exacerbations of long standing conditions, it is impossible to determine this point as all external evidence bacteriologically has disappeared; and unless the physician in charge has a knowledge of the original trouble, we are left in the dark.

The duty of the physician in every case of first infection, is to determine bacteriologically the cause and file away this memorandum for future reference. Were this an universal practice the answer to the very question I am now floundering over, would be easy.

In undoubted streptococcic cases attended with peritonitis, it is never SAFE to operate and when we do so it is taking longer chances than in any other class of cases. The emergency of obstruction is a frequent complication in these cases, and when it occurs, puts an end to our inquiry by promptly and cruelly answering the question for us.

Drainage of the peritoneum has been disappointing and has been practically abandoned.

We now come to the consideration of the most important phase of our subject. When does attenuation and safety occur? As a general proposition, I should say that all infections become attenuated with age. I have come to the establishment of a minimum rule about as follows:

In first infections, gonorrheal, from three to ten years, provided unusual destructive changes or severe invalidism does not demand earlier operation.

In the exacerbative cases where two or more years have elapsed since the primary infection, I place my minimum rule at about fourteen days. This is subject to the following conditions: If pain, tenderness and temperature has subsided and there is no elevation of temperature after a bimanual examination and fourteen days has elapsed from the onset, I should say that operation is safe. If, however, fourteen days have elapsed and there is still tenderness, rigidity and temperature, I consider it a case of probable pus formation and like to add from one to five days to the original fourteen, during which time, chills and sweats will most likely occur. The immunity

will rise to the crest of its protective wave. A high neutrophile count at this time being observed, I should say that you have reached the safest time to operate.

Applying this rule, I have, within the past year, operated upon six cases, presenting this severe clinical picture and all of them bad risks. The shortest time after the onset of symptoms was fifteen days and the longest eight weeks. Every one of these cases had almost miraculous recoveries, the convalescence, rapid and uneventful without a single rise of temperature after the first thirty hours. These were all bad surgical risks, and the results, I am satisfied, were not due to luck alone, though I admit that God has been good to me.

Streptococcic cases:

In these cases there is no answer. A study of twenty-five carefully tabulated cases by Crossen will illustrate this point.

A study of this series gives such conflicting performances as: Duration, one month. Recovery, prompt. Duration of two years, death 7th day. I am absolutely at sea in the matter of formulating any rule that will apply to this class. I believe that a streptococcic infection is just as virulent at the end of three years as it is in a recent condition and I don't believe that it makes any difference when you operate in these cases.

One of Crossen's cases had a slow and stormy convalescence when 12 years had elapsed since the primary attack, and streptococci were still demonstrated in the pus. In another of the series streptococci were demonstrated after 19 years of invalidism. The balance is perhaps slightly on the side of the waiting policy in streptococcic cases, provided obstruction or pus formation does not occur.

In staphylococcic, colon and capsulatus cases, the indication for operation is the formation of pus. Knowing that infections due to these organisms comport themselves very much like furunculosis with a tendency to subsidence and restoration of function, it would seem rational that when you can demonstrate the organism before or during operation that the operation should be confined to simple

evacuation of the pus with the view of restoring normal function. I am as yet unprepared to take this stand. In the light of present day methods of bacteriologic diagnosis, it would take a bold surgeon indeed to leave a damaged tube or ovary, saying that this tube or that ovary will be restored to normal function. That time will surely come, however, in gynecologic practice and probably in our time. It is not, in my opinion, attenuation alone that makes operation safe but rather the happy combination of attenuation and high tide immunity. Unquestionably the high tide of immunity falls as the storm abates and though attenuation goes on there is a progressive decline in resistance also, which makes operation unsafe, should it be undertaken before the infecting organisms are absolutely dead.

It is upon this theory that, though I am an ardent believer in the waiting game, am inclined to place my minimum time for safety much earlier than most writers upon the subject. It seems to me that the happy combination of the two factors furnishes the proper answer to my query.

My experience seems to bear this out to a remarkable degree.

OSTEOMYELITIS.*

BY HUGH N. LEAVELL, M. D.,
Louisville, Ky.

Osteomyelitis, or osteitis, for clinical study, may be divided into two classes according to the etiological factors:

1. Traumatic. or those cases produced by direct injury followed by infection to the bone such as compound fractures, crushing of the bones, etc.
2. Septic. Sepsis arising from some remote part of the body or from some infectious disease, as pneumonia, typhoid fever, scarlet fever and furunculosis.

*Read before the Louisville Clinical Society.

In the study of the traumatic cases we must take into account and reckon with the amount of damage done directly to the circulatory mechanism of the bone itself and to the surrounding periosteum and to the endosteum. In this variety we have to regard only the amount of nutrition which may yet be furnished to the bone after the injury and as long as the circulation is carried to the parts at all we may reasonably expect repair to take place if bacterial infection does not ensue.

The septic variety of osteomyelitis is a disease peculiar to childhood and early adolescence, is more prone to affect the long bones and usually runs a rapidly destructive course to the bone itself, and is very apt to be fatal if early surgical intervention is not instituted. The etiological factors are many. We might mention first that males are much more prone to be affected than females, owing, no doubt, to the fact that they are usually more active and consequently more liable to injury.

Constitutional peculiarities such anemia, children who have been lowered in their vitality by rachitis, syphilis, improper feeding, bad hygiene, any codition, in fact, which tends to lower the nutritive processes may predispose to this disease.

In other words, high physiological activity associated with immaturity spells diminished resistance and greater susceptibility to disease and injury.

When we take into account the rather sluggish circulation which is present at the junction of the epiphysis and diaphysis it is easy to conceive why septic material, once carried to this area, may be fraught with such disaster. Vessels do not anastomos with such frequency and a single nutrient artery is all that is left to carry on the circulation. Thrombosis of the vessels here can mean only death of the part. We can not at the present time, associate osteomyelitis with any particular germ, but we find most frequently the staphylococcus the chief offender. The streptococcus, and pneumococcus particularly the former, furnish the most virulent type of this infection. The foci of any infection on mucous, cutaneous, or serous surface may furnish the *materies morbi* for this local condition at the epipheseo-diaphyseal junction.

The symptoms of osteomyelitis vary with the virulency of the infection, though the ultimate integrity of the bone may or may not be dependent on this factor. The ultimate loss of bone may be none the less certain, whether the process of disintegration be rapid or slow. The symptoms usually associated are similar to sepsis, occurring elsewhere, chill, fever, sweats, loss of appetite, coated tongue, and constipation. In the beginning we may have symptoms closely simulating those of infantile paralysis, such as fever, slight pain in the part affected and immobility, a few hours are usually sufficient to show that we do not have a nerve involvement to reckon with but a true inflammatory condition. The lack of movement merely due to the pain which is caused by any effort.

Osteomyelitis is very often mistaken for rheumatism. This is indeed a serious error, chiefly, because it nearly always means delay in the proper treatment. We should remember that rheumatic joints do not suppurate and that it is a bilateral disease. Rheumatism involves the synovial membranes and is confined to the joints, the swelling is consequently more circumscribed.

The pain of osteomyelitis is most excruciating until the pus has caused the periosteum to be separated from the bone or has burrowed into the tissues surrounding the periosteum. After the periosteum has been separated, the bone at this point soon dies from lack of nutrition. Pieces of bone are extruded from the parent trunk and very soon the whole area forms one large abscess which may cause the surrounding tissues to break down until the pus is finally discharged through the skin. It matters little whether the original process started subperiosteally or within the bone, the ultimate effect are the same. The entire destruction of the shaft of the bone is imminent no matter where the infection starts.

Even when the swelling is quite marked it is not always an easy thing to get fluctuation owing to the depth of the inflammation. There may be a tonic contraction of the muscles over the area involved, so that this may interfere very much with the examination.

An examination of the blood always shows a marked

leucocytosis in contradistinction to rheumatism and typhoid fever.

There is no medical treatment for osteomyelitis.

The surgical treatment must be prompt and conservative and at the same time radical. Conservative so far as the periosteum is concerned and radical, as to the removal of, or drainage of the infected bone.

In all cases the periosteum should be freely incised and the bone exposed. Some authorities claim that the bone should be grooved throughout the whole length of the shaft. This seems unnecessary, in fact, in most cases unwarrantable. It involves too much destruction of the periosteum and drainage of the whole shaft can be obtained through a trephine opening in the lower and upper end of the shaft. Through such an opening one may pass a probe as far up as is necessary, to liberate the pus.

One of the first questions which may arise, as soon as the bone is exposed is, should it be opened at all? I think this question may be answered in the affirmative, if the periosteum shows evidence of having been denuded for a prolonged period, and the bone presents any areas of softening or has a worm-eaten aspect. Cross section of the bone should be avoided and all sequestra should be removed from the shaft in a longitudinal direction as far as it is possible to do so. Great care should be taken with the endosteum since, from this the contour of the bone will subsequently depend. If much destruction of the endosteum has occurred prior to the operation, we should endeavor to prevent deformities by splinting the limb and do this in such a way as not to interfere with drainage. The splint may be applied in the manner suggested by Willmoth, in the treatment of compound fractures.

Irrigation may be used, but with the same degree of caution as is customary in the abdominal cavity when such a procedure is imperative, that is to say, the surrounding tissues should be protected from contamination. When the destruction of the whole shaft is imminent or when the toxemia has been so prolonged as to threaten life, we should amputate the member at once. If joint surfaces have become involved, resections may sometimes

be done, but amputation is then most frequently demanded.

Drainage through and through the member is the ideal way since this will enable one to get rid of the infection as fast as it arises, by irrigation. We should avoid the use of strong antiseptics for this purpose, since they irritate and have no advantage over the normal saline solution for cleansing purposes.

Once that amputation has been decided upon, the question naturally arises, how much of the limb shall we take off? I think this may be answered by saying, remove all infected bone and as much of the healthy bone as will give us a good periosteal flap. Most often it will be necessary to do a disarticulation.

Clinical Department.

MULTIPLE SCLEROSIS.*

BY WM. A. JENKINS, A. M., M. D.,

*Professor of Medicine and Clinical Medicine, University
of Louisville.*

Louisville, Ky.

I wish to present for your consideration to-night a clinic on multiple sclerosis, based on six cases, which I have personally observed for periods varying from two to six years. Two of these cases I present to-night with a complete history.

Before taking up the examination and discussion of these cases, let us review very briefly the chief points in this interesting disease.

It is variously known as multiple, insular, and disseminated sclerosis; or, "sclerose en plaques" of the French.

Multiple sclerosis may be defined as a chronic diffuse

*Read before the Louisville Clinical Society.

process of the brain and spinal cord, characterized by the presence of small areas of degeneration or sclerosis scattered throughout the brain and cord. It is a fairly common disease with a rather complex symptom group, which is subject to considerable variation. The names of Charcot, Oppenheim, and Erb, are intimately associated with the earliest work on this subject.

Etiology.—Exposure and heredity are mentioned. It is most common between the ages of twenty and thirty, most cases showing first between these limits. By some it is classed as a post infectious condition; by some, as a degenerative change; by some, as an inflammatory change; by some, as a developmental change. Both sexes are about equally affected. It is more frequent among the poorer classes. It is quite impossible in every case, to determine whether the cause is exogenous and comes from without in a previously healthy individual, or, whether it is endogenous and is a type of faulty development which produces the pathological lesions. Cold and exposure count for very little. All are agreed, that syphilis plays a slight, if any, roll as a cause. Alcohol and auto-intoxication are not considered as causes. Authentic cases are reported as a result of poisoning by lead, copper, zinc, manganese and anilindyes. Trauma is considered a factor by some.

Pathology.—Sclerotic areas from the size of a pin point to that of a filbert, are found, they are greyish red in color, elevated if they are new, contracted if they are old. The neuroglia tissue is much increased in both the white and the grey matter. In the involvement in the grey matter, ganglion cells and naked axis cylinders may remain in these patches for a long time without showing any involvement. In fact, the chief change is in the neuroglia and connective tissue elements; the nerve cells and fibers being spared, as a rule. In old cases however, even the above mentioned structures may be replaced by connective tissue. The above fact explains for us why atrophy is so rare in this disease. The blood vessels in the foci of multiple sclerosis show some changes, their walls may be thickened and dilated. This is perhaps secondary and it is certainly not characteristic. It is very

doubtful if we can ever apply the term inflammation to any stage of this process. We must ask ourselves this question—Where does this process begin, in the supporting tissue or in the parenchyma of the nervous structure? Charcot leans to the theory that it begins in the supporting tissue; others say that damage is done first to the medullary sheath, that it is this structure that receives the primary insult and that this process so lessens resistance that the neuroglia and connective tissue elements are stimulated to grow. The old idea of the damage being the result of a disturbed lymphatic circulation has been practically discarded. In any event, the toxic product or products is necessarily carried to the part by the blood. Now the nervous parenchyma being the most highly sensitized and physiologically complex, necessarily shows the reaction first, by the disappearance of the medullary sheath. Irritated by this, perhaps also irritated by the original factor, the supporting tissue becomes involved. As the blood vessels carry the poison, naturally we have changes occurring in said vessels, it is not however the primary change.

The pathological picture varies with (a) the intensity of the poison, (b) its nature, (c) its mode of entrance and its progress.

Symptomatology.—An intelligent consideration of the pathological changes, as outlined above, explains why the clinical picture of this disease is so atypical and is subject to such great variation; it likewise explains the latency and the peculiar exacerbations and remissions. As the disease is a chronic one, the onset is usually slow, beginning with pain and stiffness in the legs, the reflexus become increased, a spastic paraplegia usually develops. Intention tremor is often present. Scanning speech and Nystagmus are fairly characteristic symptoms. In perhaps the majority of cases sensation is not much affected. In some instances sensory findings are common. Optic atrophy is considered by many a leading symptom. Sphincter troubles occur late in the disease. Epileptiform or apoplectiform attacks are quite characteristic. Remissions and exacerbations are found in almost every case. Coma and death may wind up the scene.

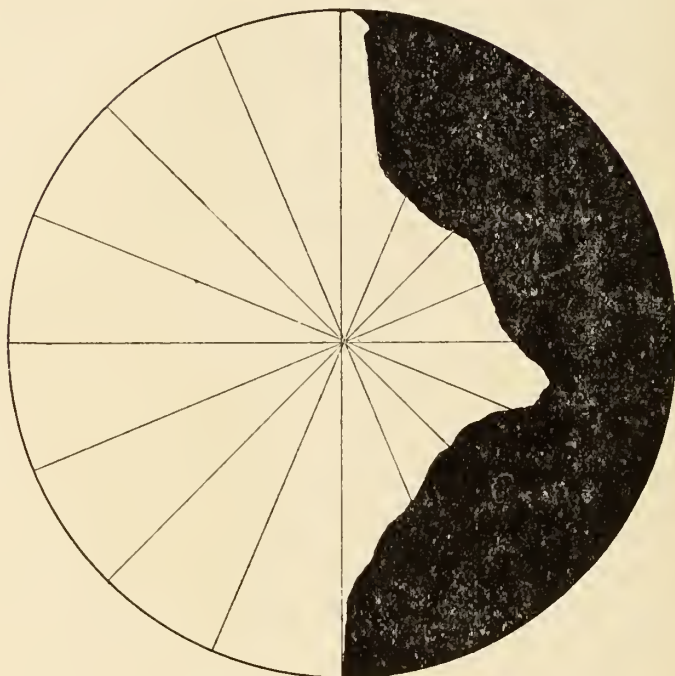
Diagnosis and Differential Diagnosis.—Dana says that "Typical cases are not difficult, but typical cases are not common, therefore considerable care and study is necessary before a positive opinion can be reached." No typical picture can be drawn. You must learn to exclude other things, especially hysteria, however, in general, we may say that the association of cerebral and spinal symptoms, with for years a history of the exacerbations and remission coupled with such symptom as (nystagmus) intention tremor, scanning speech, spastic paraplegia, involvement of the optic nerve, and Sphincter disturbances, furnish a fairly reliable symptom group.

Prognosis.—The hope of complete recovery in true multiple sclerosis is absolutely and positively nil. Much good can be done by treatment and the patient's burden lightened. The patient may be carried off by some infection or become a bedridden and helpless cripple.

Treatment.—There is very little to be said under this heading. We have practically no specifics, many remedies are proposed by as many authors. In general, we may say that the treatment is symptomatic. It is best always to take an optimistic view in the presence of the patient and carry out occasional courses of treatment. It renders them hopeful, gives them something to do and may prove beneficial. The individual case and the judgment of the attending physician will determine what plan is best in each instance. Hydrotherapy, electricity and massage have their uses and their adherents. The iodides, the sulphate of chromium and the intramuscular injections of the salts of mercury and arsenic are recommended by some.

Case No. 1.

Mr. George W. Rinke. Born December 10, 1869. Male. Canesin. Born in Germany. Occupation, fresco painter and cabinet maker. Habits, negative. Family history: father died as the result of wounds received in the Franco-Prussian war, mother died of heart disease, there were twelve children in the family, four of them are living and



Cut of visual field of right eye of Mr. George Rinke. Observation made May 16, 1909 by Dr. M. F. Coomes, Occulist. The white represents the unaffected portion, the black represents the blind area.

well, no history of hereditary taint obtainable. Personal history: had so-called black diphtheria at the age of eight, fell on the ice when he was ten years old, was not unconscious; had typhoid at the age of 12, in Berlin, a light attack; gives no history of syphilis; has had gonorrhea; was married in 1899, no children resulted from the union; so far as he knows his trouble begun in 1901, with intense pain in the right side of his head and face; face was drawn to the right for a week, at this same time deafness begun in the right ear and has persisted to the present time, a few days later the left side of the face was drawn, the facial paralysis was tonic in character; he claims that at this time he saw things double (diplopia); later facial paralysis disappeared; next he had some difficulty in passing his water; a few months later had a second at-



Cut of visual field of the left eye of Mr. George Rinke. Observation made May 16, 1909 by Dr. M. F. Coomes, Occulist. The white represents the unaffected portion, the black represents the blind area.

tack in which he was bedfast, was not unconscious but he could not speak; water had to be drawn; sensation was good. When he got up from this attack his spastic paraplegia was well developed. In July 1902 he had his second stroke or attack. While in the second attack he was taken to the city hospital and the case was thought to be one of apoplexy, as both paraplegia and hemiplegia were present. A second remission occurred which brings the case up to 1904, when I first saw him. He then presented the following phenomena; he had a typical spastic paraplegia with exaggerated reflexes and ankle clonus; there was no ataxia and no Argyle-Robertson pupil; urinary incontinence was present; bowels were costive; there was marked inequality of the pupil with a partial scanning speech; optic atrophy was rather advanced and

the hearing in the right ear was badly impaired; the man's face was expressionless; he was emotional, cried easily and was very morbid about himself; there were no sensory phenomena. Two years later, or in 1906, he developed a right homonymous hemianopsia, or, as he expressed it, he could not see all the way around to the right. And this is about how the case stands to-day, except that last year, 1909, he had one or two gastric crises. His case is an exceedingly interesting one and is well worthy of the closest study.

Accompanying this report I append drawing depicting the homonymous hemianopsia.

Case No. 2.

Mr. Edward L. Huff, White. Male Born March 20, 1858. Cabinet maker and woodworker. Used considerable tobacco after he was 18 years of age. Father died of asthma and bronchitis; mother died of tuberculosis? At the age of 10 he was injured by a stick of timber falling on his head, he was not unconscious and went back to his work in three or four days. Two months later he suffered from headache, then he had an attack of brain fever at the age of 11, said attack lasted about 12 weeks, most of this time he was unconscious. When he came to himself he was totally blind and the children lead him around. Then his eyesight improved some up to the age of 18. Dr. Dudley S. Reynolds saw him and examined his eyes and gave him a letter stating that he, Dr. Reynolds, had known Edward L. Huff for about 25 years and that he had optic atrophy in both eyes. (The patient still has the letter.) He begun to decline in 1890, fell down steps and bruised his abdomen severely about this time. In 1901 he had his first epileptiform seizure, his eyes would roll back and jerk, in fact a typical convulsion; he had a number of these attacks, claiming that he could always smell an odor before these spells came on. He had these spells off and on for five years. There were marked sensory symptoms in this case. Paraesthesia of all four extremities was almost constantly present. He said that he felt as if sparks and electricity was coming out of his toes and fingers and from the scalp. His muscles would contract.

This phenomena is still present in a varying degree. The bladder control was weak, water would often pass involuntarily. Some stiffness and spasticity; co-ordination and station are good. Muscular spasms sometimes appear. Sense of touch and pain impaired. Conduction slow. Sight almost gone, only light perception remaining. Mental and phychic phenomena present. Fits of anger and rambling talk common. Patient cannot control himself. Exceedingly emotional. Strange to say this man has a daughter who is, I feel quite sure, developing the same condition. I am sure that she already has some optic atrophy.

Legislation.

LEGISLATIVE DIGEST OF MEDICAL MATTERS.

S. B. No. 2, H. D. Newcomb, Jefferson county.—Enabling Louisville to construct a public hospital. January 8, first reading ordered printed. January 20, second reading, Municipalities. January 25, Passage recommended. January 27, passed 32 to 0, reported to House and referred to committee on Municipalities. February 1, reported favorably, read first time, placed on calendar. February 7, read second time, placed in Orders of the Day. March 11, passed 63 to 0.—Signed by the Governor.

S. B. No. 25, Conn Linn, Calloway county.—Appropriating \$30,000 annually for use of the State Board of Health for preventing the spread of disease. January 9, first reading, ordered printed. January 20, second reading, Public Health. January 27, reported favorably by committee with an amendment. February 2, passed with amendment, 30 to 0. February 7, reported to House, ordered printed, referred to Public Health. February 8, reported, read first time, placed on calendar. February 9, read second time, placed on orders of the Day. March 2, passed 51 to 27. March 4, referred to the Governor.—Became a law without the Governor's signature.

S. B. No. 26; J. A. Donaldson, Carroll county. To establish a bureau of Vital Statistics and to provide for the registration of all births and deaths. January 9, first reading, ordered printed. January 20, second reading, Public Health. February 8,

reported favorably, placed in Orders of the Day, February 14, postponed until February 15. February 23, failed to pass, receiving 15 to 10. Motion to reconsider entered. February 25, reconsidered, amended and passed 23 to 5. February 26, reported to House. Referred to Public Health. February 28, reported favorably, read first time, placed on Calendar. March 1, read second time, placed in Orders of the Day.—Passed House. Time limit March 25.

S. B. No. 29; Mark Ryan, Louisville.—Regulating the sale of opium. January 19, first reading, ordered printed. January 20, second reading, Public Health. January 27, reported favorably by committee. January 31, defeated, 15 to 8. Motion to reconsider entered. February 2, passed, 22 to 10. February 7, reported to House, ordered printed, referred to Public Health. February 24, reported favorably, with substitute, read first time, placed on Calendar. February 25, read second time, placed in Orders of the Day.—In the lap of Morpheus.

S. B. No. 66; Thos. A. Combs, Fayette county.—Appropriating \$150,000 for buildings for a medical school at State University and \$45,000 a year to maintain said school. January 13, first reading, ordered printed. February 7, second reading. State University and Normal Schools. February 17, reported favorably with amendment, placed in Orders of the Day. March 10 defeated, yeas 14, nays 18.

S. B. No. 110; T. A. Combs, Fayette county.—Providing for the appropriation of \$120,000 for the erection of a tuberculosis sanitarium and \$60,000 annually for its maintenance. January 17, first reading, ordered printed. February 1, second reading. Appropriations. February 17, reported favorably, placed in Orders of the Day.—Euthanasia.

S. B. No. 111; T. A. Combs, Fayette county.—Providing for a school medical inspector for cities of the second class. January 17, first reading, ordered printed. February 1, second reading. Municipalities. February 24, reported favorably, placed in Orders of the Day.—Suffocated in the rush.

S. B. No. 118; W. E. Dowling, Anderson county.—Creating

State Board of Nurse Examiners and Advisory Board and to provide for examination and registration of nurses. January 17, first reading, ordered printed. February 1, second reading, Propositions and Grievances. March 10, indefinitely postponed.—Requiescat in Pace!

S. B. No. 134; Mark Ryan, Louisville.—To increase the powers of the State Board of Pharmacy. January 19, first reading, ordered printed. February 1, second reading, Kentucky Statutes. February 17, reported favorably with amendment, placed in Orders of the Day. March 7, passed 23 to 0. March 8, reported to House. Rules. March 9, reported favorably, read first time, placed on Calendar. March 10, read second time, placed in Orders of the Day.—Passed House Time limit March 25.

S. B. No. 169; J. C. Graham, Grayson county.—Providing for an amendment to the law relating to the practice of pharmacy in Kentucky. January 20, first reading, ordered printed. February 8, second reading, Public Health.—Anaesthetized.

S. B. No. 198; Conn Linn, Calloway county.—Appropriating \$16,000 additional to encourage establishment of private sanitarium for treatment of tuberculosis. January 27, first reading, ordered printed. February 7, second reading, Kentucky Statutes. February 11, reported favorably, placed in Orders of the Day. February 14, read third time, passed, 21 to 10. February 15, reported to House, ordered printed. Tuberculosis. February 28, reported favorably, read first time, placed on Calendar. March 1, read second time, placed in Orders of the Day.—Passed House. Vetoed by the Governor.

S. B. No. 264; W. V. Eaton, McCracken county.—To amend the law against empiricism, by requiring itinerant vendors of drugs or nostrums to pay \$100 a year license. February 2, first reading, ordered printed. February 18, second reading Kentucky Statutes.—Asphyxiated.

S. B. No. 324; L. W. Arnett, Kenton county.—Appropriating money for tuberculosis hospital at Central and Western Asylums for new quarters for colored patients at Western and Eastern

Asylums. February 24, read first time, ordered printed. March 3, read second time. Rules.—In rigor mortis.

H. B. No. 19; J. H. Evans, Lee county.—Providing for exchange of certificates of registration with other States allowing registered pharmacists of foreign States to practice under the rules of the Kentucky Board of Pharmacy. January 13—Public Health. February 2, reported favorably, read first time, placed on calendar. February 7, read second time, placed on orders of the Day. March 4, passed 51 to 0, reported to Senate, read first time, ordered printed. March 9, read second time. Rules.—Passed Senate. Time limit March 25.

H. B. No. 53; W. F. Klair, Lexington.—Appropriating \$60,000 for the erection of a tuberculosis sanatorium in Kentucky. January 13—Tuberculosis.—In memoriam.

H. B. No. 54; W. F. Klair, Lexington.—Providing a school medical inspector in cities of second class. January 13—Municipalities. February 1, reported favorably, placed on calendar. February 7, read second time, placed on orders of the day.—For the repose it finds to slumber here.

H. B. No. 86; S. L. Robertson, Louisville.—Creating the office of assistant jail physician for Louisville. January 13—Kentucky States. February 1, reported favorably, placed on calendar. February 7, read second time, placed on orders of the day.—Fell asleep.

H. B. No. 108; R. H. Moss, Larue county.—To define the crime of abortion and prescribe a penalty therefor. January 13—Criminal Law. January 28, reported with amendment, read first time and placed on the calendar. January 31, read second time, placed on orders of the day. February 10, amended, read third time, passed 84 to 0. Feb. 11, reported to Senate, read first time, ordered printed. February 18, read second time. Kentucky Statutes. March 11, passed 27 to 0.

H. B. No. 134; J. W. Holland, Shelby county.—Requiring dairy cows to be tested for tuberculosis. January 13—Agriculture.—To the abattoir.

H. B. No. 137; J. H. Lackey, Trigg county.—Establishing Bureau of Vital Statistics for registration of births and deaths. January 13—Public Health. February 1, reported favorably, placed on calendar. February 7, read second time, placed on orders of the day.—Still-born.

H. B. No. 139; S. D. Hines, Warren county.—Providing for teaching dental hygiene in public schools. January 13. Education No. 1. February 15, reported favorably with amendment, read first time, placed on calendar. February 17, read second time, placed in Orders of the Day, March 4, passed 60 to 11, reported to Senate, read first time, ordered printed. March 8, read second time. Rules. March 11, passed 29 to 0.

H. B. No. 142; S. D. Hines, Warren county.—Amending Sec. 2054, Chapter 63, Ky. Stat., relating to State Board of Health, January 13—Public Health. February 1, reported favorably with amendment, placed on calendar. February 7, read second time, placed on orders of the day, amended, recommitted to Education No. 2.—Canned.

H. B. No. 236; R. H. Moss, Larnie county.—To amend section 2622 and 2627, Kentucky Statutes, relating to practice of pharmacy providing officers shall be elected from members of Board, recording certificate of registration and re-examination after absence of drug business for five years. January 20. Referred to Committee on Public Health.—Death ensued.

H. B. No. 277; Eugene Graves, McCracken county.—To regulate the practice of medicine, surgery and osteopathy in this Commonwealth. January 24, Public Health. February 24, reported adversely, reading refused.

H. B. No. 282; John W. Holland, Shelby county.—To regulate the sale of opium or its alkaloidal salts or their derivatives or any admixture thereof. January 24, Public Health. Doped.

H. B. No. 336; G. G. Frazier, McLean county.—To regulate the sale of patent medicines in Kentucky. January, passed 54 to 2.

H. B. No. 352; J. H. Lackey, Trigg county.—To amend section 2632 of Carroll's Statutes relating to pharmacy, providing for physicians in rural districts to engage in pharmacy without examination. January 27, Public Health. February 8, reported, read first time, placed on calendar. February 9, read second time, placed on orders of day. March 11, passed 62 to 7, reported to Senate, read first time, ordered printed.—At the last ditch—cardiac asthenia.

H. B. No. 354; H. A. Schoberth, Woodford county.—To provide for benefit of the Home for Incurables. January 27, Charitable Institutions. February 15, reported favorably, read first time, placed on calendar. February 17, read second time, placed in orders of the day. March 4, passed 71 to 10, reported to Senate, read first time, ordered printed. March 9, passed 33 to 1.—Signed by the Governor.

H. B. No. 479; W. F. Klair, Lexington.—To appropriate money for erection of hospitals for the care and isolation of tuberculosis patients at the Kentucky asylums. February 17, Charitable Institution.—Oslerized.

H. B. No. 514; J. W. Perry, Morgan county.—To regulate the practice of medicine and to further define the liability of practitioners of medicines. February 24. Public Health.—Obituary—Services from the House.

H. B. No. 532; J. M. Blair, Casey county|—To prevent persons from selling any kind of drugs or medicine except legally authorized druggists and physicians. February 28. Public Health.—Chloroformed.

Recent Progress in Medical Science.

CHRONIC ARTHRITIS.

In an illustrated article, E. H. Ochsner, Chicago (*Journal A. M. A.*, March 5,) discusses the diagnosis and treatment of arthritis deformans or chronic arthritis as distinguished from septic, tuberculous gonorrheal and syphilitic arthritis, gout, flatfoot and chronic articular rheumatism. The principal source of confusion in the diagnosis, he says, seems to arise from the fact that even prominent authors and clinicians fail to differentiate between that form of chronic arthritis which develops subsequent to acute articular rheumatism and true arthritis deformans. He cannot agree with Strumpell that it is impossible to differentiate between the two. He believes that arthritis deformans is a disease as distinct from chronic rheumatism as is syphilis from tuberculosis, and as easily distinguished from it. This is important, as the two types of arthritis call for entirely different treatment. True chronic articular rheumatism is always secondary to acute articular rheumatism, while arthritis deformans, on the other hand, is insidious in its onset and chronic from the beginning and may not reach its development for several years, while it may be limited primarily to one joint, it gradually extends to the others and different joints may be in different stages of the disease at the same time. In chronic articular rheumatism we find the results of an acute and subacute inflammation of the synovial membrane which is lacking in arthritis deformans where the process seems largely confined to the joint cartilages and extra-articular structures. Patients with chronic articular rheumatism are greatly benefited by hot baths, sweats, and Bier's active hyperemia, while arthritis deformans patients are made worse by these measures. The differences in the history of development, the characteristic deformity, and the therapeutic test make a differential diagnosis possible in practically every case. Ochsner sees no evidence of a microbial origin of arthritis deformans, and as little for a nervous origin. The remedies recommended have been numerous and he thinks that this affords a presumption that none of them is of any special value. To Ochsner, a case of arthritis deformans presents the following picture, we have, he says, to begin with, some factor which causes articular and pari-

articular irritation. This in turn causes more or less constant pain which results in non-nutrition and loss of resistance. If the process is not checked this soon results in a vicious circle, one factor causing the next until the patient finally becomes so exhausted as to be a bedridden cripple and an easy prey to an intercurrent affection. He regards it as a chemical rather than as an infectious process which takes place in the disorder. The first thing in treatment is prophylaxis, and he believes that many cases are aborted by the removal of offending appendices, hemorrhoids, and other causes of irritation. The treatment that he believes to be most effective in advanced cases, is in relieving the pain which, in its turn, will improve the nutrition, and this in his opinion is best secured by absolute immobilization. During his work on tuberculous joints he has discovered that relief of pain in an inflamed joint involved the recognition of two separate and distinct principles: First, an absolutely rigid close-fitting retention dressing. Second, the application of this dressing with the limb in such a position that the antagonistic muscles surrounding the joint are in absolute equilibrium. If this can be secured by absolute immobilization, pain in any chronically inflamed joint will cease. In contractures are very pronounced and the limb cannot be brought into the desired position without extreme pain the contractures are broken up and, if necessary, the tendons lengthened by plastic operation, and the limb placed in plaster-of-paris dressing, in the proper position and allowed to remain there until the pain and irritation have fully subsided. Details of the method for different joints are given. He reports two cases and says that, in concluding, he would like to emphasize the following points: "First, that a clear differentiation is absolutely necessary to the successful treatment of these chronic joint affections; second, that beginning cases of arthritis deformans should be carefully studied, the cause ascertained and removed whenever this is possible; third, that, for the present at least, it is well to be rather cautious in the treatment of the intermediary cases; and, finally, that even in the very late and apparently hopeless cases the patients can usually be greatly benefited by proper treatment." While the results are not to be considered always a perfect cure, Ochsner has had considerable success in bettering the condition, and has several patients who have been bedridden for years now making their own living.

THE SPLASHING SOUND OF THE STOMACH.

J. W. Weinstein of New York, says that a splashing sound in the stomach may be obtained in any case in which there is fluid present with gas in the stomach, when the abdomen is tapped or shaken. Such a stomach is not necessarily the seat of atony. To elicit this sound place the patient in a recumbent position, with the knees drawn up, and then tap suddenly in the stomach region. There are two factors to be taken into consideration in the interpretation of this sound; they are the time and place where it is heard. When obtained at a time when the stomach should be empty it may show pyloric obstruction, and will be confirmed by finding food in a fasting stomach. If it is found over the normal area of the stomach it indicates a condition to be referred to that viscus, while if found lower down it is due to the same conditions located in the colon. After lavage this sound will show that the stomach is not yet empty. When the patient himself observes the splashing the stomach is generally atonic.—*Medical Record*, March 5, 1910.

THE URINE IN DIABETES.

W. Lintz, Brooklyn (*Journal A. M. A.*, March 12), says that the urinary findings in diabetes not only give the diagnosis of the disease but throw light on the etiology and aid the surgeon and physician when their work is complicated with diabetes. Certain mistakes, however, must be avoided. The sugar test may fail unless a twenty-four hour sample is taken and it may disappear and be replaced by uric acid and phosphates. The turbidity of diabetic urine is noticeable and it is of practical importance as it is due to the growth of yeast cells which may cause, by fermentation, complete disappearance of glucose if the qualitative and quantitative examination is not made sufficiently early. Many other substances than glucose will reduce the various copper solutions, among which may be mentioned as most frequent, conjugated glyconic acid, alkapton, creatinin, uric acid in excess, blood and lactose. A point that he had not seen mentioned elsewhere is that occasionally the urine of menstruating women will reduce the copper solution, on account, as he is fully convinced of

the presence of blood in the urine. This is an important point. Blocking of the secretion of the mammary glands may also produce lactose in the urine and the fermentation test will reveal the difference. It is surprising, Lintz says, how easy it is to eliminate the above-mentioned reducing substances by the simple Fehling test provided it is properly done, *i. e.* after boiling the solution and adding the urine drop by drop. Reboiling is not necessary, warming will do. If the reduction is rapid we may be pretty certain of the presence of glucose, but if it is slow and the precipitate yellow, instead of red, the fermentation test will verify. While the specific gravity of diabetic urine is usually high, it may be low if the absorption of nitrogenous material from the digestive tract is low. The quantity also is not invariably high. The total nitrogen of the urine should be increased on account of the greater ingestion of protein, but it becomes pathologic when the body albumin is also excreted with the high sugar output. The greater the nitrogen loss the more the patient suffers. A high ammonia value means a severe case and the ammonia determination gives an accurate estimation of the acidosis present. We can predict the onset of coma by the urinary findings. The finding of beta-oxybutyric acid or diacetic acid in the urine should always serve as a danger signal. The increase in the ammonia output is equally important. A sudden diminution or disappearance of glucose, together with turbidity from hyaline granular casts and the appearance of albumin in urine previously free from it, are also danger signals. Lastly, he mentions the Cammidge reaction as a valuable indication of pancreatic disease which may be present in diabetes though he has had no experience with it in this disorder.

THE DIAGNOSIS AND TREATMENT OF INTESTINAL PROTEIN INDIGESTION.

A. E. Thayer and Raymond C. Turek of Jacksonville, Fla., state that intestinal indigestion of proteins is very frequent. These foods undergo rapid putrefaction when not promptly digested. Tryptophan is split off in the course of protein digestion, from which is produced indican and indolactic acid, which appears in the urine. They are the cause of symptoms of autointoxication. The clinical symptoms due to protein indigestion are

manifold. Any of the great systems of the body may become deranged through them. For a long time the trouble is functional, but organic disturbances may result. These patients are treated for dyspepsia, intestinal indigestion, constipation, biliousness, etc. Anemia and nervous symptoms are frequent. The trouble is generally in adults, but may be seen also in infants. It is least on a vegetable diet, next on milk, then meat, and most of all on eggs. This condition is secondary to some other derangement of the system, especially of the liver and pancreatic functions. Gastric digestion may be deficient and the foodstuffs arrive in the intestine improperly digested, and ready to putrefy. In every such case urine, feces, blood, and general physical condition should be investigated. The authors give the best tests for the results of putrefaction in the urine and feces, and the changes to be found in the blood in this condition. The blood shows degeneration of the lymphocytes. Illustrative cases are given. Cases are classified as neuralgic, neurasthenic, anemochlorotic, dyspeptic, mental, and mixed types. Treatment includes cleansing of the bowels by laxatives, administration of ferments, removal of much protein material from the diet, intestinal disinfection, treatment of gastric secretions, and tonics.—*Medical Record*, March 26, 1910.

SURGERY IN NEURASTHENICS.

Stuart McQuire, Richmond, Va., (*Journal A. M. A.*, March 26), emphasizes the importance of refusing to operate on a neurasthenic patient unless the symptoms are clearly due to organic disease, and also the necessity, if an operation is undertaken, with either latent or developed neurasthenia, of protecting the nervous system from psychic and physical shock. This will require not only proper preliminary preparation but also careful and often long postoperative and posthospital treatment. The surgeon must remember that his aim is to cure not merely to cut, and if neuroses exist he must remember that if they exist alone, operation will be liable to do harm, while if they exist with organic disease, operation may do good but great care must be taken not to aggravate the nervous symptoms. This is especially true of patients who have previously been subjects of other operations. Two separate preliminary examinations should be

made of every surgical patient; the first for diagnosis to determine the condition to be corrected, the second for prognosis to determine the safety of the operation and the chances of a complete cure. Several specialists may be required to aid in this, as surgeons are not always qualified to do all the special work that is required. The preparation of the patient should be both physical and psychic and in the past too much attention has been paid to the first and not enough to the second. Not all patients are in good nervous and physical condition and we are too apt to underrate the important effects, psychic and otherwise, of local operations, on the patient's health. Hence a longer stay in the hospital should be insisted on in many cases and when patients return to their homes they should be placed under the oversight of their family physician rather than left with simple verbal or written instructions to be carried out by themselves. McGuire thinks that, with the rapidly increasing amount of surgery being done, there should be an educational movement started for the study of the many peculiar factors involved. Physicians should take part in this and the subjects should include the question of a proper dietary, best method of bowel regulation, and treatment of bladder irritation, the hours of sleep, the amount of exercise permissible, and hundreds of other questions relating to occupations, habits, bodily hygiene, etc. When surgeons, he says, appreciate the influence of neurasthenia on the result of an operation, and when the family physician is educated in the details of posthospital treatment and given legitimate work with proper compensation, then and not till then will there be harmony in the profession and the greatest good accomplished to the greater number of patients.

A Recipe.—To one pint of patience, add two of industry, three of good-nature, and four of common sense. Stir well, mix thoroughly, and you will have a compound *good to keep*.—*Ex.*

Therapeutic Suggestions.

CORYZA.

Nouveau Remedes is authority for the statement that the following mixture will cure a cold in the head in from 24 to 48 hours, provided that it be taken when the cold is felt to be "coming on:"

Atropine sulphate	1-60 grain.
Powdered pulsatilla	3 grains.
Acetyl-salicylic acid	30 grains.
Quinine hydrochloride	30 grains.

The mixture is to be divided into twelve powders, preferably dispensed in capsules. The dose is one capsule four times daily.

MAGNESIUM SULPH. AS AN ANALGESIC.

Solis-Cohen has found the external application of solution magnesium sulphate to be of great value in deep-seated pains. The cases in which this apparently reflex analgesia was observed were cases of aneurism, gastric ulcer, gastric carcinoma, lymphatic leukemia, acute pericarditis, sciatica, headache of unknown origin, chronic pleurisy.

ABORTING GONORRHEA.

Ballenger asserts that gonorrhea can, in most cases, be aborted by injecting about twenty drops of 8 per cent. solution of argyrol into the urethra and then sealing up the meatus with collodion for several hours—as long, in fact, as the patient can refrain from urinating. If unsuccessful in aborting, this treatment modifies and shortens the attack, anyway. Cotton should be applied with the collodion, to facilitate its removal.

INSOMNIA.

Sodium hypophosphite 20 grains, in warm water or milk and water, at bedtime, is a simple yet excellent remedy for the sleeplessness of mental fatigue, or bromide of ammonium, 20 grains, thrice daily, or an alkaline draught of 30 grains of bicarbonate of soda in a tumbler of hot water.

HEMORRHAGE IN GASTRIC ULCERS.

In the severe hemorrhagic cases, von Leube puts the patients to bed, gives one dose of 30 drops of a 1-to-1,000 solution of adrenalin and an injection of morphine to quiet peristalsis, and complete abstinence of food by the mouth. He substitutes an ice-bag for the hot stupes, and gives bismuth.

Surgical Suggestions.

By frequent feeding every two hours, an obstinate biliary fistula may spontaneously close.

Ligation of the cystic artery at the beginning of a cholecystectomy often makes the removal of the gall-bladder a bloodless procedure.

A short drainage tube, and its early postoperative removal, are perhaps the best safeguards against the formation of an empyema sinus.

Unilateral deafness without known cause, associated with facial palsy on the same side, should suggest a lesion in the posterior cerebral fossa.

Meltzer's sign—pain on active flexion of the hip, with the knee extended, while the examiner presses firmly down over McBurney's point—is a most valuable corroborative evidence of appendicitis. It is not intended for cases in which abscess is palpably present.—*Am. Jour. of Surgery.*

Tincture of Iodine is commended by Allison particularly in wounds, of industrial origin, in which there is contusion and laceration with dirt and debris and in punctured wounds and wounds made by explosion. It combines the antiseptic action of iodine, and by far the best remedy to combat the Tetanus Bacillus.—*St. Paul Medical Journal.*

News Items and Personal Mention.

Dr. Joseph M. Mathews and Mrs. Mathews, who have been in California this winter have returned.

Dr. B. F. Zimmerman attended the meeting of the Council of the State Medical Association in Frankfort, on March 14th.

Dr. Orlan T. Hughes of Lexington, has located in Louisville.

Dr. John A. Brady, of St. Matthews, will leave the first of the month for Los Angeles, Cal., to join his wife and son.

Dr. Vernon Robins and Mrs. Robins, who have been in De Land Fla., for several weeks, returned March 15th. Dr. Robins' health is much improved.

Dr. Ameriens V. Meniffee, of Williamstown, has been elected Secretary of Grant County Board of Health.

Dr. Henry C. Smith, of Allen Springs, is reported to be critically ill with pneumonia.

Dr. W. P. Harvey has returned from Florida after a visit of two months.

Dr. Darwin Bell of Gracey, has been elected a member of the Christian County Board of Health.

Dr. L. H. Tully of Lamar, Ind., has located in Louisville.

Dr. Ben L. Bruner, Secretary of State, who was in the city a few days has returned to Frankfort.

Dr. W. O. Humphrey, who has been confined to his home has recovered from his illness.

The State Board of Control has appointed Dr. Lydia L. Poage of Paris, as an assistant physician at the Eastern Kentucky Hospital for the Insane, in Lexington.

Dr. James E. Stone has been elected Secretary of the Hopkinsville Board of Health.

Dr. Lewis S. McMurtry and daughter, Miss Marie Louise McMurtry, who have been at Jacksonville, Fla., for several weeks, have returned home.

Dr. John C. Vaught has been elected Secretary of the Winchester Board of Health.

Dr. Thomas C. Evans, dean of the Medical Department of the University of Louisville, has resigned, to take effect July 1st. His successor has not yet been appointed.

Drs. W. A. Krieger, Carey E. Wamsley and F. A. Clark, have been appointed district physicians of Newport.

Dr. B. Sequi O'Brien, left Louisville March 15th for Bingham Canyon, Utah, to locate.

Dr. A. M. Forster, who has charge of the tuberculosis work in Louisville, will soon open a tuberculosis camp where day treatment will be given.

Dr. Harry Woodard of Louisville, while on his motorcycle beyond St. Matthews, March 13th, was run down by an automobile, which approached him from behind. He was badly, but not seriously injured and his machine almost destroyed.

Dr. Louis Frank of Louisville, who visited his parents in Paris has returned home.

Dr. J. T. Bryan, of Louisville, who has been attending his sick son in Philadelphia, has returned.

Dr. and Mrs. Jesse H. Simpson, have returned from their wedding trip and have moved to Southern Heights.

Dr. J. N. McCarmack, of Bowling Green, Ky., was in Louisville March 16th, on business.

Dr. R. B. Gilbert gave an illustrated lecture on "Prehistoric Animals of Kentucky" March 11th, at the Parkland Library.

Dr. T. C. Evans has returned from Baltimore, where he attended the meeting of the American Medical Colleges Association.

Dr. Ellis Dunean has returned from a five weeks' visit to the home of his father, at Victoria, Texas.

Dr. P. Richard Taylor, has returned from a business trip to Florida.

Dr. J. Hunter Peak, who has been disabled by an infection of the hand, has again resumed his practice.

Dr. Albert Sleet, of Midway, spent a few days in Louisville this week on his way to Indianapolis.

Dr. Jouett Menefee, after two years special study abroad, has returned to Louisville.

Dr. Carl L. Wheeler, of Lexington, has been in Louisville for a few days on his way to Indianapolis.

Dr. Hamilton Long has gone to Shelby county to spend ten days.

Dr. I. N. Bloom has returned from Cincinnati, where he attended the dinner given on last Tuesday at the University Club, in honor of Hon. Howard Hollister, by the Cincinnati Yale Club.

In the case of Miss Hirst vs. Drs. August Schachner and Frank J. Kieffer, a verdict was returned in Judge Lincoln's court for the co-defendants. In this action, the plaintiff sought to recover \$50,000 damages alleged to have been suffered by her because of an abdominal surgical operation, which she claimed was performed on her without her consent.

The Louisville Society of Medicine have filed articles of incorporation. There is no capital stock. There are to be thirty members and each year one honorary member will be elected. The officers of this Society are Dr. J. D. Hamilton, President, Dr. R. A. Bate, Vice President, Dr. W. O. Green, Secretary and Dr. Richard T. Yoe, Treasurer.

Deaths.

Cartwright—Died in Burksville, Kentucky, on Friday, February 18th, from cerebral hemorrhage. Dr. H. L. Cartwright, age sixty-four years.

Payne—Died in Stamping Ground, Kentucky, on February 2nd, from brain disease. Dr. Robert S. Payne, aged sixty-nine years.

Russell—Died at his home near Allensville, Kentucky, on January 21st, from heart disease. Dr. Jesse Russell, aged sixty-one years.

Schulte—Died at his home in Louisville, on February 11st, from oedema of the glottis. Dr. Batts Overtou Schulte, aged twenty-six years.

Terrell—Died in Blandville, Kentucky, on February 7th, from senile debility. Dr. James Douglas Terrell, aged seventy-nine years.

Thum—Died in Louisville, Kentucky, on March 4th, from pneumonia. Dr. Manderville Thum, aged fifty-two years.

Williams—Died in Louisville, Kentucky, on Friday, February 18th, from cerebral hemorrhage. Dr. William D. Williams, of Olive Hill, Ky., aged fifty-four years.

Williams—Died at his home in Bardstown, Kentucky, on February 14th, from pneumonia. Dr. Thomas D. Williams, aged seventy years.

HEBRA'S DIACHYLON OINTMENT.

No truer saying has ever been enunciated than the one that to do good work requires good tools. It would be the height of folly to ask a cabinet-maker, a joiner or a wood-carver to turn out good work by the aid of dull or badly made tools. This, of course, is a matter that is obvious to every one. How strange is it then that a professional man is expected to obtain good and even perfect results by the aid of inferior or inadequate accessories. Any one devoting but a few moments' thought to this question cannot help but arrive at the same conclusion, whether he has a professional training or not. The matter is simply one of common sense and does not particularly involve any complicated technical questions. It is one, for whose adequate solution, the most requisite thing is common sense and a more or less clear insight into the eternal justice of things. It is not a recondite abstruse problem, but rather an every day question which everyone is asked and required to answer for himself. In fact, it is a matter that is of such common occurrence that it has never awakened the attention of anyone nor has any thought been devoted to a consideration of it, as it seemed of so trivial and unimportant a nature as to not be really worth the time for serious consideration which developments later on would require at the hands of those seriously considering the matter in question.

We have been led to make these few introductory remarks by the fact that our attention has been directed to the rather peculiar circumstance that Hebra's diachylon ointment seems to have become a completely forgotten therapeutic agent in the treatment of the skin. Attempts have been made at all times of making an imitation by means of diachylon plaster and vaseline, but it fell far short of the genuine preparation made according to the formula of Ferdinand von Hebra, who so thoroughly up-builed the Vienna school of dermatology and who sent his pupils to the four quarters of the globe. Some carping critics have gone so far as to claim that the entire treatment of Hebra consisted in first applying green soap and following this with an inunction of diachylon ointment. And yet he obtained successful results. It is not with the methods of Hebra or his treatment

that we desire to concern ourselves, but rather with the diachylon ointment bearing his name and which should be made according to his formula. When properly made, the ointment is nearly white in color and very smooth to the touch, being equal in this respect to freshly churned butter. Its action on the skin is that of being soothing and antiphlogistic and directly it has been used both patients and physicians praise it. In fact, when properly made, it wins the favor of all, and as an external application it possibly has no equal for the good effects which it produces. It may not be considered a piece of supererogation to give the original formula as given out by Hebra himself and which is as follows: Take fifteen ounces of the best olive oil and sift in it, by means of a sieve of eighty meshes to the inch, thirty drachms of powdered litharge, and add a sufficient quantity of water. The oil, in the first place, must be mixed with a pint of water, and heated to boiling by means of a steam bath. During this time, the finely powdered litharge is to be sifted in and stirred continually. This stirring and boiling is to be kept up until the minute particles of litharge have totally disappeared. A few ounces more of water are to be added during the cooking process, so that some water still remains in the vessel when the operation is completed. The mixture, however, is to be stirred until cool. Skillful manipulation is required to obtain a good result. Usually some oil of lavender is used in small quantity to give the ointment a pleasant odor. Such is the composition and method of preparing this once celebrated ointment and to-day it still remains the *facile princeps* of its class. The best olive oil and the finest litharge should be used and with proper care and skill in manipulation a product is obtained that is one of the most attractive ointments. He who has once used it will acquire the habit and he will never have cause to regret it. It is a good tool and, if properly used will always give satisfactory results. It is a preparation that must be made for the physician by a competent pharmacist.—*Amer. Journal of Dermatology*, Nov., 1909.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., MAY, 1910.

No. 5.

Editorials

DIVISION OF FEES

It has been said that it is the heaven-born privilege of an editor to talk about reform. Under this dispensation we call attention to the clandestine yet notorious bargaining carried on in the profession by those who have not the countenance to openly profess what they actually practice.

Splitting fees, the paying or receiving commissions for patients referred, is a reprehensible traffic that unquestionably victimizes unsuspecting patients, discredits trusted participants and degrades an honorable profession.

That this brokerage in patients is carried on is beyond denial—to what extent is for apparent reason difficult to determine, however, the exposure of the decoy letter correspondence in the Chicago Daily Tribune, some years ago gives convincing indication of its prevalence. These letters, framed by a Chicago specialist for the purpose

of collating the replies and reporting them to a local society, were sent from Odell, Ill., to 100 Chicago surgeons and physicians and read as follows:

“MY DEAR DOCTOR:

I have a case under my charge which requires attention along your line of work. I am not quite sure of my diagnosis, but will leave that whole matter to you. The people have heard of you favorably and are inclined to go to you for treatment. As they are wealthy they ought to pay a good fee for the service. Now, doctor, you understand that I am a young man just starting a practice, and in small towns we cannot make any distinction between the rich and poor in matters of charges. I have only received my regular visiting fee in this case. I understand, however, that it is customary for physicians to pay a commission of 25 per cent. upon all referred work, and I will deem it a favor if you can take care of me in this matter.

Kindly let me hear from you by return mail, as I am anxious to bring the case to you at once if satisfactory arrangements can be made

Yours truly,”

Of the forty-four replies eighteen consented to the arrangement—a percentage that staggers belief; unfortunately (?) the entire correspondence fell into the hands of the lay press, which published the letters of those accepting—and lo! the names of the prominent were there.

But this infectious evil that thrives under cover is neither sporadic in Chicago nor endemic in this country. We learn that the eminent Pean was a pillar in this subterranean institution of commercial surgery in France; that Louis XIV. was on one occasion phlebotomized by an ambitious young surgeon, recommended by the King's Physician and when it was discovered that the latter had profited by the division of the fee paid the operator, the Council of State unanimously voted his death for “having made traffic of royal blood.” It has recently come to light that representative members of the German profession

have been bartering patients. In Belgium the Council of Physicians have had the matter before them for discussion and have given this buying and selling of patients the name of dichotomy.—But it does not matter by what technical name it is disguised, or how cunningly it is carried on or how skillfully concealed from the patient, it is the same everywhere—graft, pure and simple.

Surely the general practitioner should be paid for the services he has rendered, but why commission the specialist his collector in secret and in low breath? If any compact is made at all it should be made openly with the previous consent of the patient. The family physician has no right to receive compensation save for professional services rendered by him and it is unconscionable to secretly profit because his patients need more expert service than he can give.

Nothing is calculated to more speedily bring the honorable profession to greater disrepute than the layety's knowledge of this illicit practice. The exaction of money for one purpose and its surreptitious diversion to another is not a mere dishonesty but a breach of confidential relation so sacred as to make the suppression of the truth an act of disloyalty.

“No man can serve two masters,”—he cannot serve both his Divine Art and Mammon. The surgeon who will split fees will increase the size of his bill to keep himself harmless from loss, and the family physician from self interest, will be tempted to overlook the overcharge, and thus the *uberrima fides* existing from time immemorial between patient and doctor will be forever destroyed.

But how to eradicate this underhand “dickering” is the problem. Medical societies can do no more than stamp their disapproval upon it; they can no more control it than they can the abortion evil for the dark secrecy of these shady transactions prevent detecting who's who. No medical legislation can enforce honesty,—for in the last analysis the lack of honest candor is the gist of the wrong.

The suggestion, that medical colleges should teach students what is ethically right, raises the question

whether all professors are like Caesar's wife—above suspicion and reminds one of Satan rebuking Sin.

Very recently the following resolution was passed by the Indiana University School of Medicine:

“Resolved, That any member of the faculty or teaching staff of the Indiana University School of Medicine, who shall be shown to be guilty, either directly or indirectly, of fee splitting, making an offer to split a fee, paying a commission for patients referred, or any violation of Article 6, Section 4, of the Principles of Medical Ethics of the A. M. A., shall be considered as having so impaired his usefulness as a member of the faculty or teaching staff of the School of Medicine by such unethical example to students, as to make his further connection with the faculty undesirable.”

The adoption of this resolution by all medical colleges will be a stride in the right direction and will afford an unmistakable ethical precept to the students of medicine.

NEW GARNISHMENT LAW

The following act has become a law and will become effective on June 15, 1910:

An Act to amend Section 1697, Subdivision 1 of Article 15, Chapter 46, of the Kentucky Statutes, Carroll's Edition, of 1903, entitled “Executions.”

Be is enacted by the General Assembly of the Commonwealth of Kentucky:

Section 1. That Section 1697, being subdivision 1 of Article 15, Chapter 46, of the Kentucky Statutes, Carroll's Edition of 1909, be and the same is hereby amended by striking therefrom the words:

“If not on hand other personal property, wages, money or growing crop, not to exceed forty dollars in value for each member of the family;”

And by adding, at the end of said section, after the words “other cooking utensils, not to exceed in value twenty-five dollars,” the words:

“Ninety percentum of the salary, wages or income earned by labor, of every person earning a salary, wages, or income of seventy-five dollars or less per month, provided that the lien created by service of garnishment, execution, or attachment shall only effect ten percentum of such salary, wages or income, earned at the time of service of process; of the salary, wages or income earned by labor, of every person earning a salary, wages or income in excess of seventy-five dollars per month, sixty-seven and one-half dollars per month and no more shall be exempt.”

The effect of this recent amendment of the Exemption Law of Kentucky will be that (1) all money of the debtor not earned by his own labor and (2) ten per cent. of his wages, and (3) if he earns more than \$75.00 per month all his wages in excess of \$67.50 per month may be subjected by garnishment to the payment of any debt *created after June 15, 1910*. To illustrate: if such a debtor inherits or becomes entitled to money otherwise than by his labor, all of it may be applied to the satisfaction of the debt. If he earns \$75.00 or less per month ten per cent. of the wages earned at the time of service of process will be subject to garnishment. If he earns \$150.00 per month then \$82.50 per month will be subject to garnishment, for not more than \$67.50 per month will be exempt from attachment or garnishment.

The only exception to the foregoing view of the law is that a farmer or one who owns exempt live stock and has not on hand \$70.00 worth of provender can claim as exempt in lien thereof \$70.00 in money.

INDIVIDUAL DRINKING CUPS.

The recent announcement that the Pennsylvania Railroad Company will introduce at all its stations and on all its trains paper drinking cups in compliance with the resolution of the New York State Board of Health, comes as a suggestion tapping, rapping, gently knocking (at the door of) the Kentucky State Board of Health.

Original Articles

INTUSSUSCEPTION.*

By JOHN F. ERDMANN, M. D., NEW YORK.

*Professor of Surgery, New York Post-Graduate
Hospital and Medical School.*

As the surgical technic of this class of cases is not the essential feature for this Society, I will but emphasize the operative necessity, and not burden you further by the various types of procedure, but call attention to the symptoms and differential diagnosis, etc.

In my series of operations, now about forty-five in number, I have been struck by the absolute health of the patients, hardly any of the number having been ill in any way before the onset. They were all rather well nourished, few only presenting a picture of under-health. No great number had any history of any previous bowel complaint, such as diarrhea, etc.

Symptoms.—There is a sudden colicky pain, accompanied with shock of sufficient degree to make a marked impression upon even the most ignorant of mothers. This primary onset of pain is then followed by cramp-like pains, intermittent in character. During the periods of cramp the child cries out and is restless, while in the intermissions during the first twelve to twenty-four hours, one, to see the child, is surprised at the temerity of the diagnostician who is rash enough to suggest an abdominal section.

The early shock disappears as the first hour has passed. The first diaper after the onset of pain may be a fecal one, while the following ones are very likely to be slimy, and contain an admixture of blood. This evidence of blood is to me pathognomonic when the previous colic, shock and spasm picture has been detailed to me by the mother or the nurse. The blood evidences may be slight with large quantities of mucus, or the reverse may be seen.

Frequent desire to defecate, tenesmus—with little result except small quantities of mucus and blood, vomiting

*Read before the Section on Pediatrics, New York Academy of Medicine, Feb 10, 1910, and published only in this Journal.

and distension of the abdomen are later developments in the order mentioned.

Palpation, even under anesthetic, is not followed in the majority of cases by the finding of a tumor, and certainly not the classical sausage-shaped ones of the text-books; but one is more likely to find no tumor from the fact that very often the tumor is hidden behind the costal arch on either side. This I have demonstrated many times to my assistants, and in fact, upon opening the abdomen, when no distinct tumor is palpable, my first search with the examining finger is under the right and left arch, then the sigmoid and rectal region.

Rectal examination reveals a tumor far less often than abdominal palpation, until the case be one of a day or more duration; but, as a rule, and I might say almost invariably, withdrawal of the examining finger is followed by blood and mucus, or bloody mucus to blood, generally characterized by a pronounced odor of decomposition.

The abdomen is lax in the early hours, and subsequently becomes distended as in any ordinary case of ileus. The pulse becomes accelerated, and while the temperature usually is subnormal to normal during the onset, a moderate degree of elevation ensues with the progress of the disease.

The differential diagnosis of these cases is sometimes extremely difficult, especially in the class of cases with visceral crises in the erythema group of skin diseases. Attention was recently called to these by Dr. Henry M. Silver (*American Journal of Surgery*, May, 1909).

My personal experience has been added to by one case of purpura hemorrhagica in a child under eight months, whom I saw early one morning, with a classical history to me at the time, of an intussusception; in fact, two able pediatricians had seen the patient and advised abdominal section for intussusception. When seen by me, there were cramps, tenesmus, bloody stools, and upon close analysis afterwards these were found to be the largest and bloodiest I have even seen. No great quantities of mucus were present. There was a facial and scalp eczema, but no spots of purpuric nature were observed in the skin.

Operation was accepted, and chloroform selected by

the family physician, much against the wishes of the anesthetist and myself. The child died upon the table, and upon attempting to do artificial respiration it was noticed that the gums were thickened, spongy and bloody. No visceral conditions pathologic in nature were found. The previous history, developed with great difficulty from the family physician and the family, gave a specific record, with a personal one of painful joints, etc., during the preceding summer, and with added profound stomach and intestinal disturbances.

Little or no difficulty should be met with in making the differential diagnosis in a case of appendicitis, as in these cases the pain is a general one with a localization, with temperature and pulse both accelerated to a greater degree than in intussusception.

The temperature in intussusception cases is usually low in the first twelve to twenty-four hours, and the pulse accelerated only during a spasm until signs of absorption arise.

Treatment.—This disease, barring a few accidental cases, is one that demands prompt surgical interference. Each successive case I see impresses me with the necessity of making operations of urgency in these cases, and of not temporizing with air inflations or water injections. I am as strongly opposed to the air inflation and continuous efforts at hydrostatic reduction by means of enemas as I was ten years ago, and insert here, with few alterations, a portion of a paper published in the New York Medical Journal in May, 1904.

“Rectal enemas in the first few hours are not productive of harm; but may, though rarely, be followed by reduction.

“Admitted that one meets occasionally with reduction by the use of enemas, nevertheless, this very important fact must be remembered, i. e., that the whole mass may be reduced except the ileo-cecal junction and one or more inches of the ileum. This being so, all the symptoms clear up for a time. They again return and necessitate operative interference at a time when the conditions of this region are not nearly so favorable to reduction, and may even require excision. This condition was well

demonstrated in my sixteenth case, a male child, seven and one-half months old. Duration, eight and three-quarter hours. Injection used by the father, a leading pediatrician in this city, Dr. H. M. Silver and myself, was followed by a perfectly tranquil picture; but realizing the possibility of this condition of incomplete reduction, we all felt that the risk of exploration would be far less than that taken by leaving matters rest for further manifestations. That our fears were not groundless was proved by the evidence of a mass at the cecum, which consisted of almost three inches of the ileum and the entire appendix. Reduction was readily accomplished, the appendix was removed, and recovery followed. I should, therefore, not feel satisfied that reduction had taken place, even if the child should have no further manifestations of pain, etc., unless this was followed in a short time by a movement of the bowels that we could feel satisfied had come from beyond the supposed site of the intussusception; and that in the waiting interval for a movement we should be prepared to proceed at a moment's notice with the operative measures. The use of enemata previous to operating is offered as a suggestion, and I can say that clinically it is of very valuable assistance, as there is no doubt that the injections reduce a portion of the intussusception, and any agency or procedure that limits operative time must of necessity diminish shock in direct proportion. Although these little patients bear operative interference quite well, it is quite significant that my greatest mortality rate occurred in those cases which required the longest time for reduction, and that these cases were also the ones of longest duration. Enemata as a means of reduction are not advised after six hours' time has elapsed from the first positive symptoms, as, after this period, much valuable time is lost by such procedure."

Mortality.—In my last sixteen cases of operative reduction, the average age was six and one-half months, the youngest being sixteen weeks old, with males in excess. One of these sixteen died, the cause, in all probability, being status lymphaticus. The child was doing perfectly well, and had been pronounced out of danger on the third

or fourth day. She had been seen but a short time before in an apparently normal state by Dr. F. Huber, and was dead within a few hours after his visit, with no assignable cause. Autopsy refused.

All my excision cases in children have succumbed, although one had passed the critical stage, having passed the Murphy button and had normal movements, when pneumonia became a fatal complication.

Conclusion.—Early recognition of this condition is absolutely necessary to a high recovery rate. Inflation is decidedly not useful, but dangerous. Enemas are successful in an exceedingly small proportion of cases, and should not be used after six hours. The earlier the operation the more likelihood of a small mortality. Late operation predicates the possibility of gangrene, with all its horrors.

THE TREATMENT OF POST PARTUM HEMORRHAGE.*

BY EDWARD SPEIDEL,

Professor of Obstetrics, University of Louisville.

That this subject has not been exhausted as yet, is evidenced by the many articles that appear in the medical press upon this complication of labor, and the new measures that are suggested from time to time for its control. The fact also that a post partum hemorrhage may occur in any labor, keeps the careful obstetrician ever on the alert and creates in him a desire to be well equipped with all the means at his command, for the speedy control of this unfortunate occurrence. Only in the last year, a number of new expedients have been tried and proven efficient in the extreme forms of this condition and every one practicing obstetrics should be conversant with them.

The term post partum hemorrhage in its broadest sense, includes any hemorrhage from the genitals occurring after labor, either from lacerations of the cervix or vaginal walls, from retention of the placenta, its membranes, or of a blood clot, or from uterine atony. In its

*Written for this Journal.

restricted sense, however, we confine the term to the hemorrhage occurring after labor, from the placental site, due either to retention of placental products or to uterine atony, and a division is made into primary or immediate post partum if occurring immediately after or within 24 hours of the birth of the child, and secondary or remote, if occurring at any time later in the puerperium.

Stewart, in an article on the subject in the January, 1910, number of the *Jour. Obst. & Diseases of Women*, confines the term post partum hemorrhage to a flow of blood after delivery 1000 c.c. or more in amount, which blanches the lips, is associated with air hunger and the pulse of severe hemorrhage. Accepting his definition, we would have before us the severest form of this complication, in which the extreme measures recommended at the conclusion of this article must be used.

Fortunately we must frequently meet with the milder forms, in which ordinary methods for its control are generally effective. The obstetrician, however, must be able to differentiate between the hemorrhage due to a laceration of the genital passages, which should show itself as a steady thin stream of bright red blood appearing within ten minutes of the birth of the child, from a flow of blood in gushes, due to retention of placental tissue, and a continuous flow of a larger volume of blood, to atony of the uterus.

The most serious form of hemorrhage is that due to atony, because in its formation the uterus expands almost to its original size before delivery of the child, the enormous flow of blood being temporarily concealed in its cavity. It is this form that gives rise to the sudden pallor, pulseless wrist, air hunger and syncope and upon abdominal examination, we fail to find the firm uterus, one-third of the distance below the umbilicus is its proper place at the end of a labor and instead find it extending almost up to the ensiform cartilage or what is even oftener the case, in the hands of the inexperienced, it has become so soft in consequence of the enormous distention, that only when the manipulations on the abdomen bring about a partial contraction, is the obstetrician able to map out its outlines.

There are certain premonitory symptoms, which, when observed by the careful obstetrician may prevent a post partum hemorrhage. A persistent pulse rate of 100 or more after the completion of labor, indicates such a tendency, whereas, yawning after the birth of the child is the earliest indication of the fact that the patient is having a hemorrhage.

The prognosis is unusually favorable for the mother, considering the apparent gravity of the complication, immediate death from post partum hemorrhage being rare. One author gives the fatal form of this complication as occurring once in 5,000 cases of labor.

It must often astonish the attending physician to see how quickly the woman rallies from such a furious hemorrhage. In most instances such an occurrence does, however, prolong the puerperium and it may lead to super involution. Lactation is generally delayed in consequence and in many instances resort must be had to artificial feeding of the infant, to give the mother a chance to rally. Septic infection is more common after such an occurrence, for two reasons, first of all the mother's resisting power against infection is reduced in consequence of her lowered vitality. Secondly, in the hurried manipulations that are used to check the hemorrhage, faulty asepsis may introduce infective material into the generative tract.

The arrest of the hemorrhage depends upon a close imitation of nature's methods in preventing bleeding from the parturient uterus under normal conditions. In the course of gestation, the blood vessels in the placental area of the uterus, lose all of their coats, except the tunica intima, which is elastic. These blood vessels traversing the uterine wall furthermore are surrounded by elastic muscular fibers arranged circularly so that when they contract, they act like a sphincter. When the fetus is expelled, the uterus normally contracts very quickly, the placental mass which is less elastic, slips off from the uterine wall, in consequence the large blood sinuses in the uterine wall are severed. With the contraction of the uterus however, the elastic muscle fibers surrounding these sinuses, contract and clamp these blood

vessels as with a ligature, furthermore the tunica intima, the only coating of these blood vessels, is elastic and retracts into the wall of the uterus. Still another provision for checking hemorrhage remains, in the fact, that the blood coagulates more readily in the pregnant woman and that thrombi at once form in the large blood sinuses. It follows then, that a successful treatment of this condition must be based upon the principals that control hemorrhage under normal circumstances.

With the knowledge that improper conduct of the second and third stage of labor is largely responsible for post partum hemorrhage, the attending physician should guard his patient against a precipitate labor, or too rapid a delivery when forceps are applied. In breech deliveries this same tendency to terminate labor too quickly should also be resented, unless the pulsation of the umbilical cord indicates that the child's life is in danger. The mother should not be allowed to become exhausted from a long and tedious labor, when a timely hypodermic can give her the much needed rest, without even interfering with the progress of the labor.

It is in the conduct of the placental stage however, that the most serious errors are committed, due again to the desire to terminate the labor too quickly. Under all circumstances a half hour should intervene before attempts are made at manual interference in the third stage. During that time, the physician should be at the side of the patient's bed, with his hand resting lightly upon the fundus of the uterus. A sudden relaxation with a profuse hemorrhage cannot then occur without his knowledge. When the time has arrived for the Crede method of placental expression, then the left hand should be placed upon the abdomen, four fingers going behind the uterus, the thumb on the anterior wall and the fundus lying in the palm of the hand.

No attempt at placental expression should be made until the uterus is hard and firmly contracted and this should not be brought about by squeezing and bruising the muscular wall, but by a lateral teasing movement of the hand until the uterus is so hard and firm, that now a pressure in the direction of the tip of the coccyx and a

lateral pressure upon the walls of the uterus at the same time, is not followed by an indentation of its surface, but by the slipping out of its cavity of the placental mass, which should be caught in a clean basin, placed up against the vulva.

The next mistake is now made in trying to pull out the membranes. In the sudden contraction that follows upon the escape of the placenta from the uterus, the cervix contracting also, catches the membranes in a grip and if undue traction is made upon them at once, they may be torn off and give rise to a later hemorrhage. A little wait at this time, until the uterus has relaxed slightly, then grasping the placental mass in both hands and with a turning motion converting the membranes into a rope, they will readily slip out.

Even then the third stage is not properly completed, unless the physician, before leaving his patient examines the abdomen once more, manipulates the fundus again and expells the blood clot that may have formed in its cavity since the expulsion of the placenta. A prophylactic dose of ergot by the mouth and the application of a firm abdominal binder will be additional safeguards against a hemorrhage, and if there still seems to be a tendency to uterine relaxation, then the infant should be placed to the breast at once, when the stimulus of nursing may reflexly bring about a firm contraction of the uterus. If the infant cannot exert enough suction power to influence the condition, then the object may be accomplished either by the application of a breast pump, or by cupping glasses to the breasts, such cupping glasses being easily extemporized from thin water glasses with the air partly expelled by heat.

The treatment of the condition itself must consist first of all, in emptying the uterus, secondly, in compelling it to contract and to remain contracted, and lastly in replenishing the blood loss and preventing collapse.

If the hemorrhage occurs with the placenta still in the uterus, then no time must be lost in its prompt expulsion. The Crede expression must then be tried at once and failing in that, the hand must be introduced into the uterus and the placenta removed manually. When

such manual removal of the placenta is resorted to, then after the escape of the placenta from the uterus, the hand should remain inside of the uterus, counter pressure being made with the other hand upon the abdomen, thus preventing a relaxation of the uterus. An attendant should inject a hypodermic of ergot intramuscularly, if it can conveniently be gotten ready, otherwise either a teaspoonful of ergot or two tablespoonfuls of vinegar should be given by mouth. An intra uterine douche of hot normal saline solution as near 115 degrees F. as possible or of 1 per cent. acetic acid should then be given, the douche tube being introduced along the palmar surface of the hand still held in the uterus. At the end of the douche, the hand is withdrawn, if the uterus then shows the proper tendency to contract. If it does not, then the hand remains in the uterus until sterile gauze fed into the uterine cavity with a dressing forceps, gradually replaces the hand. Two-inch sterile wrapper gauze bandages easily carried in the obstetrical satchel, answer the purpose admirably. The uterine packing is supplemented by vaginal packing, a firm abdominal binder is applied and then the condition should be safely controlled.

At the first sign of hemorrhage and during the manipulations of the attending physician, the pillows should be removed from under the patient's head and the foot of the bed elevated, to prevent syncope. A fountain syringe should be filled with hot normal saline solution and the tube introduced into the rectum by the nurse, at any time when the condition of the patient indicates its necessity, and without interfering with any measures of the attending physician.

In ordinary forms of post partum hemorrhage, such measures should prove effective, in the severe hemorrhage, incident to uterine atony more, extreme measures must at times be used to control the condition and in consequence, it is well to consider the measures available under such circumstances.

After expelling the clots from the uterus by abdominal pressure, the fundus may be held forward against the symphysis pubis, and a hand introduced into the

vagina, pushes the cervix forward in the same direction. In this way, the uterus is effectively closed up and after its cavity is filled with blood, no further hemorrhage can occur as long as the uterus is held in this position, which is a very tiresome one at best.

Stewart, in a recent paper, advocates introducing gauze wet with chloroform on the end of a dressing forceps up to the fundus of the uterus and then quickly withdrawing it, as in his experience the uterus contracts so quickly, that there is danger of the piece of gauze being retained in the organ. He supplements this in very severe cases, by the injection of a hypodermic of sterile vinegar into the muscular structure of the uterine wall. The uterus is held firmly forward against the anterior wall of the abdomen, which is thoroughly cleansed and the hypodermic needle thrust through it into the structure of the uterus. It follows of course, that extreme care must be practiced in the use of such a procedure.

When the surroundings are such, that intra-uterine manipulations are contraindicated, then the uterus may be pressed firmly against the symphysis by packing soft towels or other such material behind it between the separated and lax recti muscles and then holding the packing in place with a firm abdominal bandage.

Compression of the abdominal aorta may at times be resorted to by placing the ulnar border of the hand behind the uterus through the relaxed abdominal walls, until the anterior surface of the spine is reached, when the aorta can be recognized by its pulsations and firm pressure will not only immediately check the hemorrhage, but reflexly will be followed by a firm contraction of the uterus.

Dawbarn's method of confining a definite quantity of blood in the lower extremities by the application of tourniquets around the thighs will be effective at times and in some very extreme cases it may be necessary to resort to the latest device, the Momburg Belt tourniquet, to check the hemorrhage.

The latter tourniquet simply consists of a long stout rubber tube, that is applied around the patient's waist with traction and additional turns made until the femoral

pulse is no longer felt. Experiments have demonstrated that such a tourniquet can remain in place several hours without injury to any of the underlying structure, if properly applied.

THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH.*

BY R. HAYES DAVIS, M. D.,

Demonstrator of Clinical Pathology in the University of Louisville and Visiting Physician to the Louisville City Hospital, Louisville, Ky.

The reports of the Mayos and others of the brilliant results obtained by operation on a condition which would otherwise be absolutely fatal, should be a powerful stimulus to every physician to use every effort to recognize carcinoma of the stomach in its curable stage. As Dr. Deaver has recently said, a physician who makes a positive diagnosis of cancer of the stomach deserves little credit if he has observed the case for any length of time, because when the symptoms become manifest which enable one to make a positive diagnosis the case is usually too far advanced for treatment. Such symptoms as periodic vomiting of bloody material, absence of free hydrochloric acid, presence of lactic acid and Boas-Oppler bacilli, cachexia, and the presence of a mass usually indicate that the case is an inoperable one, and the treatment then can be only palliative, and this must of necessity be accompanied by a very high mortality.

In the early diagnosis of these cases age is an important adjunct, for in every individual past forty, stomach symptoms should be looked upon with suspicion. There are of course, many cases which develop much earlier in life, but these are comparatively infrequent. The recent development of symptoms in a person past middle life who has previously enjoyed perfect digestion is a sign of the greatest importance, and I can not lay too much stress upon this. Stomach symptoms may be easily explained in our old chronic gastric cases, but in a person of the proper age who has all of his life eaten with impunity and who has not given his stomach a previous thought perhaps, who now has found that for the past

*Written for this Journal.

three or four months he has been obliged to watch his diet most carefully, one should always think of a beginning neoplasm. This is even of far greater importance when proper regulation of the diet and habits of eating fail to give relief especially when arterio-sclerosis, heart disease, tuberculosis, nephritis, incipient cirrhosis of the liver, and other conditions whose symptoms are often referred to the digestive tract, can be excluded. In many of such cases there has developed slight secondary anemia with perhaps some loss in weight. The gastric region may be somewhat sensitive to pressure, especially over the pylorus, or in rare instances a slight induration or small mass may be palpated, although the presence of a mass is usually delayed until late in the disease. It is indeed fortunate when a mass is palpable in these early cases for then there usually remains little doubt as to the proper diagnosis, and operation is not delayed. Now all these cases which show these suspected symptoms should immediately be subjected to a very thorough stomach examination to determine three conditions, namely: (1) the size and position of the organ, (2) the condition of the gastric contents, and (3) the motor power of the stomach, and this last function I have found, is frequently sadly neglected in a routine examination, the physician often being content to know simply the chemical findings of the secretion.

The size and position of the stomach is usually very readily determined by inflating the organ with air through a stomach tube. If enlargement is found there must be a cause, and this is usually an atony or pyloric stenosis.

The chemical examination of the stomach contents may be of great value, but one must bear in mind that very little importance can be attached to negative findings in the early stages of this disease. The absence of free hydrochloric acid sometimes occurs as a very early symptom and is likely to be early more frequently when the growth is in any portion of the stomach other than the pyloric region. When it does occur one should not rest content until one has proved beyond a question of a doubt that the symptom is not due to a carcinoma; other-

wise an exploratory operation should be advised. Of course, this is with the understanding that several examinations are made, and the sign is constantly present. The presence of occult blood in the gastric contents or stools is a sign of the greatest value, especially if constantly present, and should be looked upon in the vast majority of cases as being due to ulceration, and ulceration usually indicates carcinoma or peptic ulcer; in the latter the hemorrhages are apt to be larger and not so constant, and hyperacidity is the rule, whereas in carcinoma the acidity is usually decreased if disturbed at all. Here I should like to call attention to the very great frequency with which carcinomata are engrafted upon peptic ulcers. In many cases where apparently simple round ulcers of the stomach have been enucleated microscopic examination has shown carcinoma cells. So that in every case of peptic ulcer where the symptoms show a tendency to chronicity an operation should be advised at once, for by operations many of the serious sequels of ulcer may be avoided, and oftentimes a life will be saved by the removal of an incipient new growth, whereas if the case is watched and treated palliatively a carcinoma may progress to a considerable extent before its recognition may be possible, for in these conditions the symptoms are so complicated that it is difficult to make a diagnosis of malignant infiltration until the case is rather far advanced. The presence of lactic acid and Boas-Oppler bacilli do not make their appearance until the free hydrochloric acid has become very low or has disappeared and until stagnation exists. Hence, they are late symptoms in the course of the disease and usually mark the beginning of the end.

The motor power of the stomach should be determined in every case of gastric disease. It is of the greatest importance, for in many stomach conditions marked abnormality of the other functions, even entire absence of gastric secretion may exist, without impairment of the patient's health and often without symptoms, but just as soon as the motor function becomes impaired the patient's health will suffer. From the standpoint of diagnosis of cancer of the stomach impairment of the motor

power of the stomach is often one of the first definite signs of the disease. If motor insufficiency exists it must either be due to atony of the gastric musculature or to a pyloric stenosis. These conditions are often very difficult to differentiate, but the following points will be of considerable service. Atony is more frequent in weak individuals who lead a sedentary life and who have been in the habit of constantly overloading their stomachs either with food or fluids, and pyloric stenosis develops without such history; in atony food remnants are found in the stomach after seven hours but usually not after twelve; and in atony in lavage the wash water flows into the stomach easily and flows out slowly. Pyloric stenosis usually develops after a history of a previous peptic ulcer or some inflammatory condition in the upper abdomen which would give rise to adhesions, or insidiously as in cases of carcinoma of the pylorus; it usually shows more marked insufficiency, the food remnants being in the stomach in the morning after a von Leube test meal has been given the night before; in this condition the wash water goes in slowly and comes out with spurts, showing marked power of the musculature; occasionally a mass or induration may be felt at the pylorus which would, of course, indicate a stenosis; and above all in pyloric stenosis often a visible peristalsis can be elicited over the region of the stomach if the abdomen is examined carefully enough. It should not be forgotten, however, that in the early stage of pyloric stenosis it is often impossible to differentiate the two conditions. Now when motor insufficiency has developed insidiously in a person past middle life without apparent cause, and especially if the loss of motor power is probably due to a stenosis, carcinoma is certainly the most probable cause, and an operation is strongly indicated. I should state here that the cause of motor insufficiency in carcinoma of the stomach is not always due to obstruction of the pylorus. In cancer of the lesser curvature and other portions of the stomach the loss of motor power may be due to infiltration of the musculature with the new growth and interference with proper peristalsis. Also not in every case of motor insufficiency is the organ dilated, because

the marked infiltration of its walls may prevent dilatation or even cause a contraction of its cavity.

Now, to recapitulate, when a patient past middle life, comes to us, who has previously had a perfectly healthy stomach, but for the past three or four months has been having some vague dyspeptic symptoms, such as fulness or pressure after eating, possibly slight pain, occasionally some nausea, some belching, possibly slight loss of appetite and sometimes a distaste for meat, possibly slight and occasional attacks of acute indigestion with nausea and vomiting, we should look upon such an individual with suspicion and proceed to make further investigations. If in addition to the symptoms named he has lost a little weight or has a mild secondary anemia, carcinoma is a likely condition. Now, when we inflate the organ, we may find it moderately enlarged, and on examination of the gastric secretions the acidity may be normal or slightly decreased, and perhaps there may be an occult blood reaction in the contents or stools. Now, proceeding further, if food remnants are found in the stomach seven hours after a von Leube test meal, and especially if the stomach does not empty itself during the night, we should strongly suspect that the probable condition is carcinoma of the stomach and advise an exploratory operation at once. The result of neglected cases is so grave that it is a physician's most sacred duty not to waste time in these conditions waiting for the development of more positive symptoms. A few weeks may convert an operable and curable case into one that is hopelessly beyond all help.

I am sorry that time does not permit me to give the reports of several cases that I have seen during the past three years. One is especially of interest, as his symptoms simply of a feeling of weight and discomfort with two transient attacks of nausea had lasted only three weeks before he came under my observation. At this time he was ten pounds below his usual weight, with normal blood. His stomach examination showed a moderately dilated organ with normal acidity and slight food retention after twelve hours. On one occasion the occult blood reaction was positive when undiluted contents were

used directly with the benzidin test, giving a distinct but faint reaction. The acetic acid—etherial extract of the contents did not give the reaction. No mass could be felt. An exploratory operation was advised, and Dr. Louis Frank opened the abdomen after the case had been under my observation for a period of two weeks. At operation was found a very small mass situated near the pylorus, in the lesser curvature, freely movable, and some involvement of the surrounding lymphatics.

THE DIAGNOSIS AND TREATMENT OF GOITER.*

By JNO. R. WATHEN, A.B., M.D.,

PROFESSOR OF SURGERY, UNIVERSITY OF LOUISVILLE,
LOUISVILLE, KY.

There is at present no disease attracting more attention from both the general practitioner and the surgeon than that of goiter. The term goiter should be limited to those cases where a permanent tumor has existed for some time and those temporary enlargements of the thyroid gland which occur so frequently in young girls and are associated with puberty or the menstrual periods should not be classed as goiters, but should be considered as physiological enlargements of the thyroid.

So also should the thyroid enlargements which occur in pregnancy and during or after typhoid and other prolonged fevers.

Any enlargement of the thyroid gland usually produces an accelerated pulse rate, some nervous symptoms, and the neck fullness causes a sensation of choking or smothering. It is only in the exophthalmic type of goiter that the pulse remains greatly accelerated for a long time and the other symptoms are especially prominent. The diagnosis of the cystic types is comparatively easy, as these are usually round, protruding, massive, and generally freely movable. They resemble ovarian cysts in their appearance, pathology and treatment. Some attain a very large size, but aside from the disfigurement produced, and the pressure on neighboring structures, are not of any especial danger. Their removal is comparatively easy and the results good.

*Written for this Journal.

The large adenomatous goiters, often seen in Europe, are not of frequent occurrence in this country, as are also the fibrous types.

Cancerous goiters are seldom met with and can usually be diagnosed, if far advanced, by their fixation to the surrounding structures of the neck.

The most dangerous type of goiter and the kind most often found in this country, is the exophthalmic variety. These are easy to diagnose in the late stages after all the



TYPES OF GOITERS.

Adenomatous Goiter.
Cystic Goiter.

Exophthalmic Goiter.
Fibro-calcareous Goiter.

typical symptoms have developed, and much irreparable damage has been done, but to make an early diagnosis is sometimes extremely difficult.

It is only of late years that we have recognized this disease early, and have been able to apply treatment suited to the case.

The physiological enlargements of the thyroid gland occurring during puberty in young girls already alluded to, need no special treatment aside from the general care of the body, and will usually get well without any medicine whatsoever.

It is only in those patients whose goiters remain for several years, whose general health fails, whose pulse runs from 100 to 140; patients who have disturbances of digestion, of long standing, whose eyes begin to show enlargement or protruding, and whose nervous system shows in muscular tremors, that we should advise an operation early enough to avoid the late destructive changes seen in neglected cases, cases where the family doctor has for years been administering iodine locally and internally, electricity, etc., all of which have been proven to be of no specific value.

True that these cases have shown signs of improvement under such treatment, but this has been proven to occur independent of such treatment; in fact they often do best if kept quiet and given no medicine at all. The only real therapeutic measures of any pronounced value, aside from the operative removal of the gland, seem to be some good heart tonic as tincture of strophanthus, and such physiological methods as hydrotherapy and the rest treatment.

The real cause of the symptoms of exophthalmic goiter are now considered to be the over activity of the thyroid gland, which from some unknown cause has developed in activity and size. There is also claimed by some to be a separate secretion in the gland independent of the regular thyroid secretion. The pathology of the condition is yet a mooted question, but nevertheless, we certainly know that if the gland activity and absorption into the system is lessened or the enlarged lobe of the thyroid removed by operation, the patient's symptoms disappear and results are little short of marvelous.

By removing the over-active enlarged lobe of the thyroid, and it is usually the right lobe which is enlarged, we break the pathologic link in the chain of this disease.

Many cases occur where but little if any enlargement of the thyroid can be detected, but these usually show when operated upon a rather perceptible increase in one lobe.

If the finger is pushed in against the trachea on the opposite side of the neck and the patient is told to swallow, the goiter will be dislocated and can generally be outlined, even if small.

The thing which most concerns the family doctor is the selection of cases suited for operation.

Based upon an experience of over one hundred operations, I should say that if we delay operation for several years, administering iodine and electricity until the heart muscle has undergone degeneration, albumin in the urine, enlargement and fatty degeneration of liver, lowered blood pressure, etc., we have waited too long to attempt any radical operative measures and these patients will surely die.

The proper time to advise operation with an expectancy of low mortality and good results, is after this thyroid enlargement has begun to manifest the early symptoms of exophthalmic goiter, and has existed for several months or years, with little or no signs of improvement. Avoid the young girls developing into puberty, as these will usually recover without treatment.

In the selection of our patients for operation, we should realize that early operation, before complications have arisen, as in appendicitis and other surgical diseases, offers the best results. Those cases whose pulse is not over 120 to 130, and which under careful preparatory treatment, can be reduced to 100 or below, and whose arterial tension is not far from normal, will usually stand the operation well and give good results. It is that class of cases where no preliminary treatment seems to be able to make such temporary reduction, which seems to be especially dangerous. I have carefully studied my operated cases, and I have noted that all patients in whom I was not able to reduce the pulse in preparatory treatment to below 110, had died and I lost no patient in whom

we were able to reduce the pulse to below this figure—this observation, irrespective of the original condition of the pulse when the patient entered the hospital.

In other words, a patient entering the hospital with a pulse of 180, and reduced before operation to below 110, always recovered, and one entering the hospital with a pulse of only 120 to 130, and not reduced to below 110, always died.

Those with the intermittent pulse are the most dangerous irrespective of the pulse rate.

In the preparation of the patient for operation, I have tried almost every remedy usually recommended to reduce the pulse and better the condition; but none has yielded such good results as absolute rest in bed and tincture of strophanthus. This drug is hard to obtain fresh, and much care must be used to get a reliable preparation. Epsom salts, so popular in the treatment of night-sweats in tuberculosis, seems also in exophthalmic goiter to act as a specific to neutralize the poisonous toxine, and is especially indicated in all cases except those with a profuse diarrhea. The calcium salts should always be administered for several days before operation, as this lessens hemorrhage, and seems to act especially upon the thyroid and parathyroid glands.

Aside from the proper selection and preparation of the case, the most important thing which concerns us is a rapid and a safe technique in our operation. When a careful study of the operated cases has been made, we will find that there is no class of surgery where more gratifying results have been obtained and no patients who appreciate their improved condition more than those who were operated upon for goiter.

INTRA-MUSCULAR INJECTIONS OF MERCURY IN THE TREATMENT OF SYPHILIS.*

BY O. H. KELSALL, A.B., M.D.
Louisville, Ky.

In selecting this subject for presentation to this society, the writer desires at the outset, to make no claim

*Read before the West End Medical Society.

for originality, but rather to present for consideration a method of treatment of syphilis that has rather recently gained wide vogue among syphilographers, it being at the same time, a method with which the writer has had considerable experience. The general practitioner sees a great many of these cases first, and I thought the subject would not be without interest to this society.

Syphilis occupies a position equally as great, if not greater, as those other two arch enemies of mankind, alcoholism and tuberculosis, in its production of misery, disease and death, and if untreated or poorly treated, may, with its sequelae, cause its victims to live a living death. Its dire influence through heredity and the danger of innocent victims becoming inoculated with its virus render it a social and economic problem of no mean importance.

It is not the purpose of the writer to advocate this method to the exclusion of all others but rather to show some of the advantages of this method, at the same time discussing some of its disadvantages.

While other drugs help out, mercury has come to be given the premier position in the treatment of syphilis and even in the tertiary stage of syphilis, where potassium iodide was so long thought to hold almost universal sway, mercury may be said to hold a three fold position, (1), as an auxiliary in a great many cases, i. e., as an auxiliary to potassium iodide, (2), as principal agent in a few cases, there being a few cases that do not respond at all to potassium iodide, but will rapidly respond to mercury, (3), especially and most important as a preventive. Potassium iodide will not prevent relapses and in cases where potassium iodide will rapidly resolve a large gumma or heal a syphilitic ulcer, it will not prevent relapses but we are forced to have recourse to mercury. According to Keys, where we give potassium iodide to cure lesions, we give mercury to prevent relapses. So we see the administration of mercury is of prime importance.

In recent years there have been many discussions in the medical literature as to the use of the soluble or insoluble preparations of mercury in intra-muscular injections, but practically all syphilographers are now agreed

that the insoluble preparations are more potent and efficacious and of the insoluble preparations calomel is the most potent. Fournier says, that if he were to establish a hierarchy among the different agents for hypodermatic mercurialization, with regard to their relative power, he should unhesitatingly place calomel in the first rank as a remedy, which at present is unsurpassed, gray oil in the second rank and the biniodide a long way afterward in the third rank, along with some others, such as the benzoate, salicylate and cyanide, all active and useful remedies, but incomparably inferior to the preceeding in therapeutic efficacy.

The chief soluble preparations in general use are the bichloride, benzoate, and the biniodide. The chief insoluble are calomel, salicylate and gray oil. These preparations may be used according to the following formulae, which are taken from Keyes:

Mercury bichloridegrains xv to xxx

Sodium chloridegrains x

Aquaounces iii

Dose m. xv.

Mercury benzoategrains xv

Ammonium benzoategrains lxxv

Aqua qs. ad.ounces iii

Dose m. xv.

Mercury biniodidedrachm ss

Potassium iodidegrains xv

Aqua qs. ad.ounces iii

Mercury salicylategrains xlviii

Albolinounces i

Dose m. x.

For calomel, the sublimed calomel is used, washed in alcohol and mixed with ten parts of sterile albolin.

Lafay's gray oil:

Mercury bidistilleddrachms iiss

Albolindrachms iii

Lanolineounces iss

Dose m i to m vi.

These doses as given are average doses and may be greatly exceeded in some cases.

The soluble injections may be given subcutaneously, but the insoluble must be given intra-muscularly. The buttocks are generally the site selected, the pectoral muscles, the thick muscles of the inter-scapular region or loin may be utilized. A simple rule is to run a vertical line dividing the gluteal region into inner third and outer two-thirds and a horizontal line two finger breadths above the great trochanter. Where these lines intersect and to the upper and outer side of intersection may be the region selected. Our needle and syringe must be sterilized and the site of injection cleansed with ether or alcohol. The needle, (which should be of platinum and at least two inches long), may then be plunged in up to the hilt. We must then wait one or two minutes to see if any blood oozes from the needle and if so, we must reintroduce the needle in a slightly different locality. If no blood appears, we may then inject the mercury containing substance.

One objection to the use of the soluble preparations is the necessity of daily or every other day injections. This continued for two or more years, imposes an obligation on both physician and patient, very difficult of fulfillment. One thing thought to be in favor of the soluble preparations has been that there was less danger of the formation of nodular induration but Keyes has seen a pair of buttocks infiltrated all over from repeated injections of bi-chloride solutions. The fact of it is that with the precautions that are used nowadays, the formation of these painful nodosities is rather the exception than the rule with either of the preparations and we may look for this condition especially in individuals possessing soft flabby muscles.

There is one danger that has been urged in the use of the insoluble preparations and that is the danger of the formation of embolism. This danger is guarded against by the method outlined above by waiting to see whether any blood drips from the needle, thus determining whether its point has entered a blood vessel or not. The elder and younger Keyes have had this accident to occur but three times in several thousand injections. In the writer's opinion there is just as much danger of the formation of

embolism in the use of the soluble preparation where an oily menstrum has been used as the solvent.

Keyes says: "Among the insoluble injections, calomel is said to be the most efficient, but is too painful. The choice between soluble and insoluble injections is largely a matter of taste. But since the insoluble preparations have been perfected and since the necessity of injecting them into the muscles has been generally understood, the vogue of the soluble injections has diminished. A more important distinction is this, insoluble injections are the more efficient and since efficiency is the one claim made for injections, this fact is gradually forcing insoluble injections to the fore." Keyes has also seen cases yield to the insoluble injections after resisting all other forms of treatment, even the soluble injections.

Another point, since soluble injections must be given daily for a course of ten to thirty injections, the pain is often cumulative and finally the discomfort becomes greater than that caused by the slightly more severe insoluble injections.

Another great advantage which the injection method enjoys, together with the inunction and fumigation methods, is that it spares the digestive tract which may be already in a bad condition but it has the additional advantage of efficiency over these methods.

Another advantage, and in the writer's opinion, by no means least, which the insoluble injection method has over other methods, is that it makes the patient come to his physician for treatment and he is more apt to be faithful to the continuance of the treatment than when he is under the necessity of day in and day out, three times a day, of ingesting medicine. In fact, all my patients, with one exception only, prefer the treatment as administered by me to the old way.

Since calomel injections are too painful and since practically all the foremost syphilographers are agreed that gray oil, next to calomel, is the most efficient preparation, the writer, after having tried other preparations, has come to use gray oil of a formula as modified by Lafay, almost to the exclusion of all other injection preparations. The writer prefers Lafay's formula because gray oil, as

ordinarily put up, is rather firm in consistency and very difficult to handle. It necessitates that the syringe be warmed and also the needle and the ointment itself be slightly warmed, but even with using these precautions, the needle becomes cool immediately and the ointment congeals within the needle and renders its injection very difficult. The addition of the slight amount of albolin, as in Lafay's formula, renders the preparation of a softer consistency and very easy to administer. The slightly increased bulk of the dose does not seem in any way to render the preparation more irritating.

The writer has given about 600 of these injections of Lafay's gray oil, with uniform success as to results and pleasure to the patients. It has been the experience of the writer that patients, as a rule, state that the insoluble injection at the time of administration gives no pain or at least no more than what is caused by the insertion of the needle. The next day they notice slight discomfort which is not enough to cause inconvenience and this continues for two or three days, but has entirely worn off by the end of the week or the time for another injection. The flat flabby muscled subjects will occasionally have some trouble but this may generally be avoided by taking care to see that no medicament leaks along the tract of the needle on withdrawing.

The ordinary dose of Lafay's gray oil is two to six minims, but the writer has frequently given to some cases, eight, ten and twelve minims. As a rule, large doses are to be avoided and the effect of increased dosage rather to be obtained by greater frequency of administration of smaller doses. Keyes says that the insoluble injections may be given, once every two weeks for a year, or until such time thereafter as there shall have been no symptoms for six months. Then one every three weeks for the second year. Then skip six months and resume at the rate of once a month for six months. Relapse of symptoms should be the signal for the resumption of injections every two weeks for three months after their cure.

For symptomatic treatment, the injections may be repeated twice weekly until lesions have disappeared and then once every two weeks.

The writer has given the injections once weekly for an entire year without ill effects, before skipping treatment. In severe cases they may be given as often as three times weekly, but when given this way the treatment should not be given for more than three or four weeks continuously, provided the symptoms have been controlled, before intermitting treatment, for fear of a cumulative effect.

It is not the intention of the writer to weary you with a long report of cases, as that would be merely a repetition of that with which all of you are already familiar, i. e., the usual history of syphilis with simply quicker results added by this method of treatment, but he desires to report one case in which he is satisfied that this method was the means of saving a valuable life to the community and a case in which this method was especially applicable.

A medical confrere was unfortunate enough to contract an extragenital chancre of the finger. This was first diagnosed as such by the writer and later by one or two other syphilographers. As is always the case in such instances, the patient doubted the diagnosis. Scrappings of the lesion were examined several times by a competent bacteriologist, but he failed to find the spirochaeta. The confirmatory evidence of the secondaries was awaited in vain for about three months. In the meantime the patient's health declined, he lost a great deal of weight and his stomach would not retain anything. He became too weak to walk across the floor. The chancre still persisted. When his condition became so serious, I urged upon him the necessity of trying a therapeutic diagnosis and he finally agreed. I gave him in the buttocks 5 minims of Lafay's gray oil and he was improved the very next day, and continued to improve with the continuance of the treatment. I gave him but few injections, as his digestive condition improved and he was then able to take treatment by internal administration as a matter of greater convenience to himself, he being a very busy practitioner. Here was a case that demanded urgent measures and without some such rapid method of bringing the patient under the influence of mercury, he would probably have died.

Selected Articles.

RELATIONSHIP BETWEEN RECTAL DISEASES AND THOSE OF THE FEMALE PELVIC ORGANS.*

BY JAMES P. TUTTLE, M. D., NEW YORK.

Buried in the files of a defunct journal published some fourteen years ago lies an article upon the identical subject upon which I have been asked to speak to you to-night. I cannot better open my remarks than by quoting from that paper (*New York Polyclinic*, September 15, 1896.)

"The tendency to reason *post hoc ergo propter hoc*, is so great in medicine that one hesitates sometimes to write of obscure affections as dependent upon local diseases lest he should have been mistaken in his own conclusions and his cures have proved coincidences, or lest he should lead those of less experience to jump at unjustified diagnoses, and thus do more harm than good."

The diseases of the rectum are so frequently associated with the diseases of other organs of the body, sometimes as the cause and sometimes as the effect, and especially so with those of the reproductive organs, that no one who has had a large experience can have failed to observe it; especially is this true with regard to the reproductive organs of women.

There is no portion of the body that may not be affected functionally or sympathetically by diseases of the rectum, or those of the female pelvic organs. The symptoms are one and the same, and it is often with the greatest difficulty that we can make out where the pathological lesion lies. In discussing the relationship between the diseases of these two sets of organs I shall include with the rectum all that portion of the colon known as the sigmoid flexure, for the field of proctology has greatly widened in the past few years, and he who practices it must be familiar with the whole field of intestinal surgery.

The propinquity and anatomical relations between these parts would, *a priori*, lead one to anticipate a close relationship in their pathological affections. Traumatism of one are likely to invade the other; inflammations are liable to extend from one to the other directly, or through their lymphatic connections; the intimate relationship between the nerve and blood supply of the two sections naturally lead to distinct impressions upon each

*Delivered before the New York Obstetrical Society.

when the other is affected. So closely are they related in every way that one can never say he has covered the field of diagnosis in any given case of such disease until he has examined both the rectum and the female pelvic organs.

It was my intention, and quite naturally, to divide this subject into relations of the diseases of the rectum to the female pelvic organs; and relations of the diseases of the female pelvic organs to the rectum. Upon mature consideration, however, it appears that such a division would require one to discuss every disease of the rectum and every affection of the pelvic organs in order to cover the subject, for there is no affection of one that may not reflexly or otherwise disturb the other. I have therefore determined to discuss it from another point of view, and take up with you the symptoms and conditions common to diseases of both the rectum and the pelvic organs.

In order to avoid repetition let me generalize a little and say that owing to the very close relationship or proximity of their nerve centres in the spinal cord every irritation of the rectum may have a reflex action on the pelvic organs, causing disarrangement of their functions and sympathetic pains. As instances we may cite the inability to urinate after an operation on the rectum; menstrual irregularities in ulcerations of the rectum; or amenorrhœa in cases of periodic hæmorrhage from hæmorrhoids. On the other hand, diseases of the female pelvic organs have their reflexes just the same way on the rectum and sigmoid flexure. For example, hæmorrhoidal congestion in dysmenorrhœa; constipation in prolapse of the ovaries; proctitis in parametritis; spasmodic sphincter in cystitis, etc.

The chief symptoms to which I wish to call your attention are pelvic and sacral pains; irregularity of functions; inguinal or iliac tenderness; pains shooting down the legs; reflex pains; digestive disturbances; mental and nervous affections.

Pelvic and Sacral Pains: These symptoms are so commonly associated with both sets of organs that one must determine their cause by elimination, or even sometimes by exploratory operation. During the rise and fall of gynæcology as a specialty we were first taught by Emmet and his followers that lacerations of the cervix were the cause of every pain in the back and pelvis; later it was taught that laceration of the perinæum, weakness of the floor of the pelvis, and dragging of the womb upon its supports was the *fons et origo* of such pains. As surgery progressed

and the invasion of the peritoneum became less dangerous, the theory was advanced that ovarian or tubal diseases were the cause of all pelvic and sacral pains; and finally when these failed to cure it was advocated from a gynæcological point of view that a large or adherent uterus was the cause, and hysterectomy was offered as the one panacea. Many women were cured, but in many the backaches went on, and the functional and reflex disturbances persisted, and the poor patients were in despair until the rise of the proctologist who began to find that the backaches and pelvic pains lay in a mass of congested hemorrhoids, a concealed fissure, an ulceration of the rectum, faecal impaction, or faecal stasis in the sigmoid.

Like in all such cases of enthusiastic and positive opinion the truth lay in the middle ground; some cases were relieved by gynæcological procedures, others by rectal treatment or operation; and fortunate the patient who consulted a physician or surgeon well enough posted in both lines to determine in which field the pathological lesion lay and remedy that lesion first without going over the whole category of rectal or gynæcological operations before it was finally lighted upon.

In fact, either or neither of these classes of disease may be the cause of the pelvic or rectal pains. It has been pointed out by Goldthwaite and Taylor that in many cases such pains are due to strain, inflammation, or rheumatism of the iliosacral joints, and their relief may be readily accomplished by fixation and the proper medical or surgical treatment of these joints. I have verified this on several occasions. Sometimes it is a combination of conditions; especially is this true in injuries following childbirth, where the perinaeum has not been completely repaired and rectocele exists; and where as the result of straining to empty the bowels fissure or hemorrhoids are produced; or again where the supports of the uterus are weakened and some involution exists, and where an overweighted organ sags down against the rectum—producing congestion, hemorrhoids, and irritability from pressure.

Under such conditions an operation for hemorrhoids will not cure the backache—nor will an operation upon the rectocele, or shortening of the round ligaments, do it either. One should be prepared to remedy both conditions if the patient's physical status will allow it at one operation, and not subject the individual to two or three operations. I perfectly agree with the cele-

brated dictum, "Worse things can happen a patient than to live to undergo a second operation." At the same time, nothing much worse can happen to the surgeon's reputation than to do an operation, with the assurance that it is going to relieve, and to have the patient recover without any relief, consult another surgeon and be cured by some minor operation that might easily have been done at the first seance. The question is one of complete diagnosis—the determination of what conditions are causing the symptoms, and, whether there be one or two, doing radical and effective work at once.

Reflex Pains: Medical literature is full of instances of remote neuralgic pains relieved by operation on the uterine organs, especially lacerated cervixes and prolapsed ovaries, and by operations upon the rectum especially for fissure. There is not one of us but can recall such cases. I myself have relieved pain in the eye, constant headache, and facial neuralgia by the removal of hemorrhoids, or the incision or stretching of a fissure. I do not care to go into this subject to-night, but to call your attention to the reflexes of rectal diseases upon the femal pelvic organs, and vice versa. The conditions which I have found to cause these pains are dysuria, vaginismus, dysmenorrhœa; or ulcerations of the rectum, stricture, fissure, cryptitis, or inflammation of the crypts of Morgagni.

Many a neurasthenic, care worn woman suffering with pelvic pains referred to her uterus and ovaries; tired out with vaginal tamponing, and daily douching of the vagina, has been relieved of all these symptoms by the cure of a rectal ulceration, fissure, or some other of the diseases mentioned. These conditions act not only in a reflex manner but by causing spasms of the levator ani muscles, which surround the vagina and the neck of the bladder, and consequently restrict these parts when in a state of spasm; they act also in causing constipation and its local or physiological sequences. On the other hand, the rectum is very often irritated and kept in a state of pain by such conditions as displacement and adhesions of the uterus, cystitis, and vulvo-vaginal diseases. Old inflammations around the uterus often cause perirectal strictures, in which the symptoms are referred to the rectum, and yet the original cause and pathological conditions lie in and around the uterus. It is useless to attempt to treat the latter condition through the rectum; it is relieved only through medical and surgical attention to the organ in which the condi-

tion arises; and, on the other hand, it is just as useless to attempt to treat those vague and indefinite pains of the pelvic organs due to rectal anomalies or pathological conditions by operation and treatment through the vagina. The differentiation between actual and reflex pain, the determination of the seat of the pathological condition is the one desideratum to learn the cause of our patient's complaint, and then usually our course of action is clear.

Pains Shooting down the Legs: One type of reflex pains to which reference has been often made in medical literature is pain shooting down the legs. It is common to diseases both of the rectum and female pelvic organs. Hilton has said that such pains in the left leg are almost pathognomonic of rectal ulcers or fissures. It seems to me that his experience must have been coincidences, for in my own, I believe, I have seen just as many pains in the right leg as in the left; and as a large majority of fissures are in the anterior or posterior commissure, I can see no reason why these pains should shoot down the left leg any more than the right. I have paid more attention to this in recent years and I am convinced that one should not eliminate the rectum because the pains are in the right leg; nor do I believe that we should conclude that a pain shooting down the left leg is conclusive evidence of disease of the rectum. A tumor of the uterus, or uterine organs, pressing upon the nerves as they extend down from the spinal canal to their exit from the pelvis may cause just such pains in the legs, either right or left, as are attributed to diseases of the rectum. We should never, therefore, give opinion as to the cause or origin of such pains until both sets of organs have been carefully examined.

Irregularity of Functions: The functions of either the rectum or the female pelvic organs may be disturbed by various causes especially by disease in one or the other. The functions of the rectum are absorption of the fluid contents of the feces; the furnishing of a reservoir for the detritus of the alimentary canal; and to extrude this from the system at more or less regular periods. All of these functions may be influenced, interfered with, or suppressed entirely by diseases of the female pelvic organs. The diseases which chiefly act in this way are hypertrophied or displaced uteri, tumors, and cysts of the uterus and ovaries, which in a mechanical way may retard or prevent the passing of fecal matter, by causing pressure upon the intestines:

(rare) by producing inflammation or irritation, and arrest of peristalsis; by pushing the gut to one side—upward or downward—and causing a flexure or angulation; and adhesions, all of which interfere with the functions of the gut, and at times prevent them altogether. Prolapsed and inflamed ovaries and tubes by reflex action often arrest the peristalsis of the gut. Nature is self protecting, and where the passage of the faecal matter through the gut presses upon the inflamed or tender organs she resists and often the collection of faeces in the descending colon is nothing more than the evidence of Nature preventing pressure upon the inflamed organs of the pelvis.

Adhesions of the gut through inflammation of the uterus and its appendages are common causes of interference with the intestinal functions. One chief cause of purely rectal disturbances in women is rectocele, a condition which from its name would be more properly relegated to rectal surgery than to the field of the gynecologists; a condition which it seems to me, is not well understood by the average operating surgeon. When I state that within one month I have seen six cases of severe rectal disturbance due solely to rectocele, and all in women who had been operated upon for lacerated perinæa, one of them as many as three times, you will understand the import of this remark. The restoration of the perinæum only will not cure rectocele, and, until the gynæcologists and obstetricians recognize the fact that the lesion is as much in the rectal as in the vaginal wall they will find their patients drifting to the proctologist's office for relief of rectal disturbances which never should have occurred.

The functions of the female genital organs are micturition, menstruation, procreation, and parturition. Micturition is affected by traumatism, acute inflammation, fissures, ulcerations, and large tumors of the rectum. Menstruation is influenced by constipation, which delays it; diarrhœa, which hastens it; by bleeding hæmorrhoids, which may prevent it or act in a vicarious manner; and by all the other rectal conditions which cause discharge, hæmorrhage, or profound impression on the nervous system. Procreation may be prevented by faecal stasis or impaction pressing upon the uterus from above and causing an acute flexure in the cervix; by endometritis or vaginitis due to colon bacillus infection passing by osmosis from one organ to the other; or it may be intercepted or aborted by diarrhœa or dysentery; straining at stool due to stricture, inflammation, ulceration, fissure, or

obstruction of the rectum. Parturition may be influenced by constipation, by proctoliths, or other foreign bodies in the rectum causing distress and arrest of the labor pains when the head presses down upon this organ; and by hypertrophy of the levator ani muscles which prevents the relaxation of the perineum, arrests the head, and is often the direct cause of laceration. It may be absolutely prevented by a large polypoid, fibroid, or other tumor of the rectum.

Inguinal or Iliac Tenderness or Pain: It is a common assumption that tenderness or pains in the iliac regions made worse by walking, deep pressure, or palpation through the vagina are due to tubal, uterine or ovarian diseases. I have seen operations done for the removal of these organs when there was practically no organic disease to account for the pain. In recent years we have come to know that such pain and tenderness are frequently associated with inflammation of the sigmoid, such as sigmoiditis, meso-sigmoiditis, diverticulitis, or tumors of the gut—these conditions are often overlooked in operating on the uterine organs. It is not even always necessary that there should be inflammation, for the symptoms may be produced by angulations of the bowel, with a faecal accumulation above, and pressure upon the female pelvic organs. These same conditions I have found to account for the dragging pains associated with and often falsely attributed to "falling of the womb."

Accumulation of faeces in the sigmoid or descending colon has often been mistaken for pelvic, ovarian, or uterine tumors. Operation should never be done for such pains and such tumors until such a possibility has been eliminated. The inflammation of the sigmoid may spread to the uterus and ovaries, causing adhesions to and involvement of these organs. On the other hand, diseases of the reproductive organs may be the original seat of disease and the bowel be secondarily involved, causing arrest of its function, and acting in a circle as it were, keeping up the pain. The right procedure in such cases is to determine beforehand, if possible, by rectal and vaginal exploration which set of organs is at fault, and, if exploratory operation is necessary to consider the condition of both the intestines and the pelvic organs well before operating upon either. In other words, let the gynaecologists be posted as to the abnormalities and diseases of the intestines—and the proctologists be well informed as to the pathological condition of the uterine organs, in order that the

patient may be justified in her resort to surgery, that she may not recover from one operation only to be subjected to another when all may have been done for her at once.

Nervous and Mental Disturbances: There is no doubt that many of the nervous and mental disturbances in women are due to affections of the uterine organs. A few years since a wave of gynæcological enthusiasm passed through all the insane hospitals of this country and Europe. Operating surgeons were appointed as consultants and attendants to these institutions, and thousands of women were ovariectomized or otherwise operated upon with the hope of quieting their disturbed minds and restoring them to reason. The results of this procedure have not been all that could be hoped for; some have been benefited and some cured, but many more have failed. More recently the theory of auto-toxæmia has become prominent, and to-day we are of the impression that more can be done by better attention to the lower end of the intestinal canal than by ovariectomy, hysterectomy, etc. I do not mean to depreciate the effects of proper gynæcology in nervous and mental diseases, but I do wish to emphasize the importance of first obtaining what benefit is possible from nonsurgical methods, or less radical methods if surgery is necessary in the treatment of this class of cases.

The influence of the absorption of putrid matter from the intestinal canal upon the nervous and mental system has long ago been pointed out, and it is becoming more and more acknowledged by neurologists at the present time. Hypochondria and melancholia are in many cases nothing more than the result of such absorption, and as this proceeds the resistive power of the patient decreases, the pelvic pains are magnified, the interference of the functions appear, and the whole category of nervous exhaustion and true melancholy develops. Many of these patients, no doubt, have uterine disorders and ovarian pathological conditions, but these are secondary and not the cause of the mental condition. It is not necessary to go to the asylums to find such cases; our cities are full of tired, depressed, melancholic women, who are being treated by tampons and douches, for backaches and pelvic pains which are due to faecal stasis—imperfect emptying of the bowel, and other rectal conditions. The problem which presents itself to us is the differentiation between the conditions; the seeding out and determining whether the rectal, sigmoidal, or pelvic organs are at fault, and to do this there must be a pass-

ing of the specialties. In other words, the proctologist must be a gynecologist in diagnosis at least; and the gynecologist must be a proctologist; and thus you see, my friends, wherever I begin—on whatever topic I attempt to speak—I come back finally to this one old theme—the highest development of surgery and medicine—the perfect diagnosis of our cases.—*N. Y. Medical Journal.*

Recent Progress in Medical Science.

THE PATHOLOGY AND DIAGNOSIS OF GALLSTONES AND DISEASES OF THE BILIARY SYSTEM.

Henry Roth of New York urges physicians to attend the operations on their patients for gallstones, in order that they may see the conditions as they exist when many obscure symptoms will be explained. He outlines the various changes that may occur in gallstones and gallbladder diseases. The relation between the biliary passages and stomach, duodenum, and pancreas are embryological, anatomical, and physiological. He sums up the results of thirty-two operations done at the Lebanon Hospital, and gives histories of several cases. Cholecystotomy was done in twenty-seven cases, cholecystectomy in three. When the natural flow of bile is interfered with stagnation occurs, and this is combined with infection from the intestine or by way of the portal system. Thus a catarrhal inflammation results. The colon and typhoid bacilli are most often found, but streptococci, staphylococci, and pneumococci are also present. Cholecystitis is a well-known complication of typhoid fever. Pregnancy predisposes to gall-bladder infection. There may be gallstones associated with only slight changes in the bladder; they produce erosions, and inflammation ensues. Associated with empyema of the gall-bladder there may be cholangitis and localized peritonitis, with or without adhesions. This may go on to infection and gangrene. A calculus may pass from the cystic into the common duct, and then into the intestine at the papilla. Reinfection of tumors of the passages are rare, malignant ones are common duct, resulting in contraction of the gall-bladder. Pressure of a calculus in the common duct will cause pancreatitis. Benign tumors of the passages are rare, malignant ones are common from irritation of stones that have not given any symptoms. Symptoms in the little passages may be caused by irritation, mi-

gration, and obstruction. They consist in pain, biliary colic, nausea and vomiting, swelling, jaundice, and in acute cases of fever. The differential diagnosis is given.—*Medical Record*, April 23, 1910.

PROCTOCLYSIS.

An apparatus for continuous proctoelisis is described (*Journal A. M. A.*, April 2), by Angus McLean, of Detroit. It consists of a galvanized iron or tin box, size 7 by 8 by 9 inches, the walls, floors and cover of which are made of two layers with asbestos between. For the front two layers of glass instead of metal, are used. A two-quart dish for the saline solution is placed in this box. The solution falls drop by drop into a funnel and is carried by a double-walled tube into the patient's rectum, a strip of gauze carrying it over the edge of the dish into the funnel, a strip giving 50 drops a minute being used. The water is kept at a definite heat of from 140 to 145 F. by means of an electric bulb or alcohol lamp under the dish. If any obstruction occurs it can be observed by the fluid filling the funnel. There can be no constriction of the tube by the arrangement used and obstruction would have to be caused by feces or pressure of the thighs, or some other way. The apparatus furnishes a perfect drop which can be regulated to suit the needs. It allows for rapid expulsion of flatus, is inexpensive, and can also be improvised in any household with a basin, a funnel, a tube and piece of gauze.

HOT BATHS IN TREATMENT OF SUPERFICIAL INFLAMMATION.

Richter (*Munchener Medizinische Wochenschrift*) reports his success with the old hot-bath treatment. He has treated 330 workingmen with various injuries of the soft parts, felons, furuncles and phlegmons with the systematic use of local hot baths. The writer orders the patient to put the hand, arm, foot or leg into water as hot as can be borne and to keep it in the water for from half an hour to an hour, pouring in hot water from time to time to keep the temperature at about the same point. This procedure is to be repeated several times a day. A little soda, about half a tablespoonful to a quart of water, is added. He believes that the principle of this treatment is about the same as that of the Bier method, attracting the blood more actively to the part to aid in combating the local infection. The results have

been extremely satisfactory. Pus was evacuated by an incision at the proper time.

ERRORS OF DIAGNOSIS IN SURGICAL LESIONS OF THE KIDNEY.

Alexander B. Johnson, of New York, endeavors to point out **how errors of diagnosis in surgical diseases of the kidneys** may be avoided. He takes up the diagnosis in injuries of the kidneys, movable kidney, hydronephrosis, suppurative lesions of the kidneys, and stone in the kidney, and gives many useful and helpful points in diagnosis, with illustrative cases. Hematuria, pain, and tenderness are important points to be observed. A subcutaneous rupture of the kidney may be attended with few symptoms at first, and hematuria may be intermittent. A large or rough stone in the kidney may cause laceration on slight force applied in injury. Dilatation of the pelvis of the kidney may be produced by obstruction of the ureters at any point, resulting in hydronephrosis. This may be mistaken for a large ovarian tumor. Suppurative lesions of the kidney show changes in the urine, in the bladder on cystoscopy, and pain. There may be secondary stone formation. The x-ray is not a positive index of the presence or absence of calculus, since uric acid calculi can hardly be seen in x-ray pictures. Kidney colic is an important point. Anuria shows absolute obstruction. Changes in the urine are of value in diagnosis here. The cystoscope and ureteral catheter are diagnostic acids of value.—*Medical Record*, April 9, 1910.

ANTIDOTE FOR ALUMINUM PHOSPHATE, THE POISON THAT CAUSES MILK-SICKNESS.

E. L. Moseley, of Sandusky, Ohio, states that the substance contained in white snakeroot that causes milk-sickness is aluminum phosphate. It affects animals as well as men, causing **trembles in horses**. Aluminum sulphate placed on fat meat and given as food will cause the same symptoms. But if a little soda is used with the food the effects do not appear. The author believes that bicarbonate of soda is an antidote to the poison, while common salt does not act as such. The poisoning seems to be due to an acidosis produced in the blood: hence the bicarbonate of soda by increasing the alkalinity of the blood counteracts its effects. If given with a vegetable diet the poison is harmless, but with animal food its effects are poisonous.—*Medical Record*, April 9, 1910.

FRACTURE OF LONG BONES IN CHILDREN.

W. P. Coues, Boston, (*Journal A. M. A.*, April 9), calls attention to the importance of a class of fractures of long bones in children which may pass unrecognized without the use of the x-ray. The subperiosteal fractures may be lacking in crepitus, abnormal mobility and swelling and ecchymosis may be absent. Careful examination, however, may give valuable information. There is localized tenderness along the site of fracture which is increased by the classic test of lateral traction above and below the site. In long fissures or linear fractures, rotation will always give the most pain. Several cases are reported. Treatment of these cases should be the simplest that is adequate to maintain fixation, until solid union is obtained and a permanent anatomic and functional result may be expected. Rough manipulation and forcible testing for crepitus should be avoided in diagnosis, and an anesthetic is not required. These children often complain of pain and trouble at points distant from the fracture and the x-ray examination should not be confined to the part complained of but should include the neighboring long bones as well.

THE MORO REACTION.

F. R. Charlton, Indianapolis, (*Journal A. M. A.*, March 26), during the past 18 months has used the Moro reaction on about 40 patients as a test for tuberculosis. In all except 5 there was a more or less positive reaction and he became skeptical as to the clinical value of the test, many of the patients having no other clinical evidence of the disease. Recently he used a tube on himself and another person in whom there was no positive evidence of tuberculosis, and obtained a strong reaction in both. He also learned that a number of internes and nurses in the Indianapolis City Hospital had obtained positive reaction on themselves with the Moro test, and he asked for volunteer subjects from the students of the Indiana University School of Medicine. Seven responded and in one only did the skin remain clear. He calls attention to the danger of trusting to this test, asking of what clinical value as a diagnostic aid can a test be that marks the overwhelming majority of the human family as tuberculous? The false value placed on it, however, is leading to the ever threatening and apparently inevitable abuse as a short cut to diagnosis in place of the old classical clinical study.

News Items.

Dr. John C. Rogers, who was recently indicted for connection with alleged frauds practiced on Indiana insurance companies was completely vindicated and dismissed in Judge Gregory's Court on April 2nd. Since the indictment was returned a thorough investigation showed that he was the victim of imposition and his dismissal was asked by both the Commonwealth's Attorney and the attorneys representing the insurance companies.

The Hospital Commission has been named by Mayor Head. The Democratic members of this bi-partisan board are Capt. John H. Leathers, banker and Joseph Hubbuch, Sr., merchant. The Republican members are Mr. Samuel Culbertson, capitalist and Judge Arthur Peter.

HOSPITAL DEDICATED.—The new building of the Children's Free Hospital, a model in every respect, was formally dedicated April 2.

The Louisville Anti-Tuberculosis Association held its fifth annual meeting at the Seelbach, April 11.

The following were elected as officers for the ensuing year: President W. C. Nones; First Vice President, B. Bernheim; Second Vice President, Mrs. George C. Avery; Third Vice President, Dr. S. A. Hartwell; Fourth Vice President, Mrs. L. H. Wymond.

Dr. H. A. Davidson, in the Jefferson Circuit Court, won his suit against the Hospital College of Medicine, and is relieved of all obligations arising out of a contract he had with the defendant, whereby he executed to the defendant five promissory notes aggregating \$3,000.

The suit grew out of the consolidation of the various medical schools of the city about a year ago. At the time of the consolidation Dr. Davidson occupied a chair, secured by executing the notes. When the consolidation was made he was left out of the faculty, and he filed suit for breach of contract, asking for cancellation of the notes held against him.

The evidence in his case showed that he had held the professorship designated only one year, from the fall of 1907, to the spring of 1908.

The West End Medical Society, at its last meeting, April 12, held its annual election. The following officers were chosen for the ensuing year: Dr. I. A. Arnold, President; Dr. H. L. Read, Vice President, and Dr. John K. Freeman, Secretary and Treasurer.

The Paducah Medical and Surgical Society re-elected the following officers: President, Dr. J. G. Brooks; Vice President, Dr. O. R. Kidd; Secretary and Treasurer, Dr. J. T. Reddick.

The Hardin county Insurance Society was recently organized in Elizabethtown and the following officers elected: Dr. D. C. McClure, President; Dr. J. M. English, Vice President, and Dr. Chas. T. Riggs, Secretary.

Dr. W. W. Hill, of South Park, was elected President of the Bullitt county Medical Society, at its annual election at Shepherdsville, April 11.

Dr. Charles Meredith Garth and Mrs. Garth are spending a few days in Middlesboro, where Dr. Garth has gone on a fishing trip.

Dr. Emil Doll, who a year ago left for Berlin, Germany, to take a post graduate course in medicine, will return in May.

Dr. C. B. Eddy, of Louisville, is the guest of Mr. and Mrs. G. B. Davis, Pewee Valley.

Dr. J. W. Irwin left April 8 for a brief visit to Atlantic City. Dr. Irwin is recuperating from an attack of the grip.

Dr. and Mrs. J. J. Shafer have returned to the city and are now located at 1477 South Second.

Dr. M. F. Coomes and Mrs. Coomes, have returned from a six weeks' trip to Tampa, Jacksonville and other points of interest in Florida.

Dr. and Mrs. Leon L. Solomon are visiting in Mobile and New Orleans.

Dr. Charles Vance, of Lexington, has returned home after a visit to Dr. Barnett Owen, at his apartment in the Highlands.

Dr. and Mrs. William Bailey have returned from six weeks' stay in Florida.

Dr. George Payne and wife have returned from New Orleans where they attended the Shriner's celebration.

Dr. Andrew Sargent spent several days in Hopkinsville.

Dr. W. O. Bailey has moved to his country home, near Prestonia.

Dr. Charles G. Edwards, who has been the guest of his son, Mr. Harry Edwards, in Alberta, Can., for some time, has returned.

Dr. W. R. Pinnell, who has been in Indianapolis on business, has returned.

Dr. Edwin T. Bruce has been quite ill in Germantown, Pa., where he is visiting.

Dr. V. E. Simpson has returned from a brief visit to Bowling Green.

Dr. Ben. L. Bruner, of Frankfort, was in Louisville, April 9, and was one of the speakers at the Scottish Rite Banquet.

Dr. C. H. Harris has gone to Florida for a two weeks' stay.

Drs. J. T. Dunn, H. H. Grant, A. D. Willmoth, and Milton Board, attended the meeting of the Muldraugh Hill Medical Society at Elizabethtown, April 14.

Dr. and Mrs. George B. Eager, have returned from a short stay at New Castle.

Dr. J. F. Taylor was the guest of Dr. Rowan B. Pryor, at Crestwood.

Dr. C. P. Meredith, who was stricken with paralysis, is at Deaconess Hospital.

Dr. F. L. Wilhoit has resigned his position as Sanitary Inspector in the Health Department.

Dr. W. W. Franklin has returned to his home in Glasgow.

Dr. A. D. Wright, has returned to his home in Bardstown, after a visit to Mt. Washington.

Dr. Kenneth has returned from Owensboro to Maeco.

Dr. John F. Glasscock, of Sonora, has been visiting in Elizabethtown.

Dr. H. P. Cartwright, of Bowling Green, has returned home from Florida, where he spent the winter.

Dr. Miles Saunders is reported seriously ill at Okalona.

Dr. E. P. Easley, of New Albany, has returned from Bloomington, Ind., where he was the guest of Mr. Henry Gentry.

Dr. W. A. Beard and wife, of New Albany, are on an extended trip to Texas.

Dr. T. W. Stone and family, of Bowling Green, have returned from Florida.

Dr. Edward Davenport, of Hampton, was operated on in Paducah, for appendicitis.

Dr. Joe Taylor is visiting his mother at Mt. Washington.

Dr. F. D. Royce and wife, are the guests of Mr. and Mrs. T. R. Grinon, in Harrodsburg.

Dr. G. R. Gowan will, at the expiration of his internship in the Louisville City Hospital, be married to Miss Eulah Jones, of Central City, Ky., on April 27.

Dr. Ben. Vaughan, of Mannsville, Ky., will on May 1, locate in Louisville.

Dr. J. Holdslaw, who has been visiting in the city, has returned to Mt. Washington.

Dr. J. A. Brady, of St. Matthews, left for Los Angeles, Cal., to join his wife and will remain in California for several weeks.

Dr. and Mrs. L. S. Settle, who have been visiting relatives in Botland, have returned to Mt. Washington.

Dr. D. B. Knox, has returned to Georgetown from Chicago.

Dr. James Owsley and wife, of Sonora, have gone to Missouri to visit relatives.

Drs. John B. Harned and J. H. Rice, have gone to Chicago, where they will remain a month to take post graduate courses.

Dr. D. E. Westmorland, of Owensboro, is visiting in Maceo.

Dr. R. S. Rutherford and wife, of New Albany, are visiting in Chicago.

Dr. H. J. Dailey and family, of Owingsville, have been the guests of Mr. and Mrs. C. W. King, in Carlisle.

Dr. W. C. Wilkerson, Clintonsville, sustained a loss of his office and equipment by fire.

Dr. L. B. Moorman, of Irvington, made a brief visit to Brandenburg.

MARRIAGES.

Dr. Harry L. Read and Miss Josephine Dorsey were quietly married April 19, at the home of the bride 2724 Virginia avenue.

William Patriek Morse, M. D., Farmersville, Ky., to Miss Lena Mae Smith, of Princeton, Ky., March 30.

DEATHS.

William W. Coleman, M. D., member of Board of Health, of Mt. Washington, Ky., died at his home in that place, April 1, from pneumonia, age 54 years.

Charles L. King, M. D., of Louisville, died in Hot Springs, March 31, of heart trouble.

Surgical Suggestions.

Pulsating bone swellings are almost invariably sarcomata.

Do not advise amputation for every case of bone sarcoma—the results of resection are about as good and not nearly so mutilating.

The administration of thyroid extract in a case of delayed union after fracture will do no harm and may do good.

The exhibition of the x-rays or the Finsen light seems to be the best treatment for post-operative keloids.

Cicatricial stenosis of the uterus has been the result of too vigorous curettage and of the intrauterine application of caustics.

To avoid troublesome hemorrhage in operations for tuberculous glands of the neck first expose the internal jugular vein.

An apparently superficial tumor of the chest wall may be an intrathoracic growth that has reached the surface; an x-ray picture is indicated in any such tumor before its attempted removal.

By constipating the patient, a high-seated rectal carcinoma may be pushed down within reach of the examining finger in the rectum. A *small* enema may balloon such a tumor within reach of abdominal palpation.

Preparatory to, and following, operations upon the brain or spinal cord hexamethylenamine ("urotropin") should be administered in liberal doses; Crowe has shown that formaldehyde then appears in the cerebrospinal fluid, and thereby minimizes the danger of infection.—*Am. Jour. of Surgery.*

Therapeutic Suggestions.

CHAPPED SKIN. For chapped face or hands, or for sunburn, the following is highly recommended:

R

Acid acet. dil.,

Glycerinaa oz. j.

Bismuth subnit., q. s. ad.

Pt. mass. Sig. Apply locally.—*Ex.*

INFANTILE BRONCHITIS.

Where there is profuse secretion, the *Journal de Médecine de Paris* recommends the following:

Washed sulfur10 drachms

Refined honey3 ounces

One dessertspoonful twice or thrice daily.

DYSMENORRHEAL NEURALGIA.

The following application is recommended by Dalehe, for lumbar neuralgia of menstrual association. It is to be painted locally over the lumbar region and may be associated with warm baths and massage to the loins, buttocks and thighs:

R.

Ichthyolidr. iiss

Spir. chloroformi

Spir. camphoræaa dr. iv.

Alcoholisoz. j.

Clinical Review.

SORE NIPPLES.

These may be painted with a four per cent. solution of silver nitrate, or an ointment having the following composition, may be applied:

R.

Bals. peruvianadr. j.

Ungt. aq. rosæ

Lanoliniaa oz. ss

Med. Record

WHAT EVERY DOCTOR KNOWS.

That it is hard to collect bills.

That it is easy to make a poor perineum look like a good one.

That to look at the tongue usually tells you nothing but impresses the patient.

That patients with apparently the poorest kind of hearts and kidneys often discount gloomy prognostications about 50 per cent.

That clean bills of health are sometimes given to patients who drop dead thirty minutes later.

That the older bedside methods are more or less neglected for the fascinating but less well tried newer methods.

That many doctors are guided by the dicta of the laboratory oligarchs as absolutely as the Russian peasant is guided by the canned theological dogmas of the Greek church.

That to make our high blood pressure patients live the way some of the "authorities" would have them live would, in many cases, make their lives not worth living.

That very successful practitioners tend to go into business more or less—that in these instances interests in real estate, stocks, bonds and mines (oh, those Aladdin mines!) displace interest in livers, spleens and blood counts.

That it was never anything but tomfoolery of the sublimest kind to talk about the immediate repair of cervical lacerations under the circumstances that usually attend parturition in private practice.

That he is worse than foolish not to examine for sugar in every case and at any age where a specimen is procurable.

That he could better dispense with an ear than with the meaningless, or at least vague, term—vitality.

That he feels like an incompetent and a criminal when he reads what some of the men in the profession are doing for the sick—and what many allege they are doing.

That there are a lot of neurasthenics who don't want to get well.

That the little tab of skin that sometimes persists around the frenum after a circumcision looks to him and to the patient and his relatives as big as an elephant's ear.

That sincere and rational gratitude on the part of some poor devil whom he has really helped is better than rubies or fine gold.

That the art of drug therapeutics as now practiced is based upon a curious mixture of science, luck and humbug.

That court work is a nuisance.

That night work is hell.—*Critic and Guide.*

BOOK REVIEWS.

THE SEXUAL LIFE OF WOMEN, By E. Heinrich Kisch, M. D., Professor of the German Medical Faculty of the University of Prague, Physician to the Hospital and Spa of Marienbad; Member of the Board of Health, etc., Translated from the German by M. Eden Paul, M. D., Pp. 686 with clear type. 97 illustrations. Price \$5.00. cloth. Rebman Company, 1123 Broadway, New York.

This volume deals with the subject in its physiological, pathological and hygienic aspects, and from the standpoint of clinical investigation and of practical experience contributes towards the solution of the sexual problem, nowadays recognized as one of supreme importance. The author not only writes from an extended personal experience but gives liberally references to the works of other authors.

The work is divided by the natural landmarks of the sexual life of woman: the onset of menstruation, the culmination of sexual activity and the cessation of menstruation. These several sexual epochs are differentiated by characteristic anatomical states of the reproductive organs, by the external configuration of the feminine body, by functional effects throughout the entire organism, and, finally, by pathological disturbances of the normal vital processes.

Thus in separate chapters a description is given of sexual processes, a detailed exposition of which will be vainly sought in the textbooks of gynecology, yet which are none the less of far-reaching importance in relation to the physical, mental, and social well-being of women, and in relation also to the development of human society; such topics are, the sexual impulse, copulation, fertility, sterility, the employment of means for the prevention of conception, the determination of sex, sexual hygiene. The topics of pregnancy, parturition, lying-in, and lactation are wisely omitted as they are more or less fully considered in works on midwifery. The great attention given in this work to questions of education and personal hygiene makes it interesting to physicians; but the demand for such a book of merit will not be confined to the medical profession as any intelligent adult will be benefited by its perusal.

THE PROPAGANDA FOR REFORM IN PROPRIETARY MEDICINES; Sixth Edition: Containing the various exposes of nostrums and quackery which have appeared in *The Journal of the American Medical Association*. Price, Paper, 10 cents; Cloth, 35 cents. Pp. 292. Illustrated.

This book¹ presents in convenient form most of the exposures that have appeared in *The Journal* of the American Medical Association showing fraud either in the composition of various proprietary preparations or in the claims made for such preparations. Not all of the products dealt with, however, are such as are—or have been—used by the medical profession. Many preparations of the “patent medicine” type have been subjected to analysis and the results of such examinations appear in this volume. The book will prove of great value to the physician in two ways: 1, It will enlighten him as to the value, or lack of value, of many of the so-called ethical proprietaries on the market; and 2, It will put him in a position to answer intelligently questions that his patients may ask him regarding the virtues (?) of some of the widely advertised “patent medicines” on the market. After reading the reports published in this book physicians will realize the value and efficiency of simple scientific combinations of U. S. P. and N. F. preparations as compared with many of the ready-made, unstable and inefficient proprietary articles.

INTERNATIONAL CLINICS. Volume I. Twentieth Series, 1910. A quarterly of illustrated clinical lectures and original articles by leading members of the profession. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A. J. B. Lippincott Company, Philadelphia and London.

This volume of 301 pages containing 46 plates—7 colored—is contributed to by twenty representative members of the medical profession of this and foreign countries, such men as Joseph C. Bloodgood, M. D., Johns Hopkins University; John H. Musser, M. D., of the University of Penn; J. K. Kimura, M. D., of Japan; A. Laphorn Smith, M. D., of the Samaritan Hospital for Women, Montreal, Can., and others. In that part of the volume which reviews the progress of medicine during 1909, the subject of “Treatment,” is written by A. A. Stephens, M. D., who, in a comprehensive way discusses Infectious Diseases, Metabolic Diseases, Diseases of the Digestive and Respiratory Tracts, Diseases

of the Kidney, Blood, Circulatory and Nervous Symptoms. The review of Medicine is by Drs. Musser and Tuttle, both of the University of Penn., while Dr. Bloodgood reviews the progress in the surgical field. We note that in treating the subject of post operative complications, he gives considerable attention to the pre-operative and post-operative measures for their prevention; this is generally slighted by authors; the need and demand for such literature is recently being recognized by publishers. The recent advance in surgery of the Jaws, Stomach, Pancreas, Spleen and Oesophagus is briefly reviewed. The excellent bibliography appended adds much to the contribution as those who care to go deeper into any part of the subject matter, will find it of great help.

THE RAT AND ITS RELATIONS TO THE PUBLIC HEALTH, By various authors, prepared by direction of the Surgeon-General, Washington Government Printing Office, 1910, pp. 254.—Paper, Illustrated.

Since evidence has been rapidly accumulating, which proves that this animal and his parasites are responsible for the transmission of plague and that plague itself is essentially a disease of the rat, this collection of pertinent information is of importance, particularly to public health officials. The subjects dealt with in this publication have been prepared by those of wide experience.

Mr. David E. Lantz gives the national history, classification and distribution of the *Mus* in America.

Past Assistant Surgeon McCoy, discusses plague infections in rats and describes the methods of examination. Dr. Brinkerhoff discusses rat leprosy, Past Assistant Surgeon Currie, the bacterial diseases of the rat and Dr. C. Wordell Stites, the internal parasites of rats and mice in relation to the diseases of man. The subject of rodent extermination is considered in detail by different authors.

Mr. Lantz, in another paper, discusses the rat as an economic factor, —stating that they serve no useful purpose.

DIRECTORY OF LOUISVILLE MEDICAL SOCIETIES.

(FOR MAY.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton,"
May 2, 9, 16, 23 and 30.

DR. E. S. ALLEN	<i>President</i>
DR. S. D. WETHERBY	} <i>Vice Presidents</i>
DR. M. F. COOMBS	
DR. CURRAN POPE	<i>Treasurer</i>
DR. DUNNING S. WILSON	<i>Secretary</i>

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, May 10
and 24.

DR. JOSEPH W. IRWIN	<i>President</i>
DR. ARGUS D. WILLMOTH	<i>Treasurer</i>
DR. H. J. FARBACH	<i>Secretary</i>

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club,
May 5.

DR. J. D. HAMILTON	<i>President</i>
DR. R. A. BATE	<i>Vice President</i>
DR. RICHARD T. YOE	<i>Treasurer</i>
DR. W. O. GREEN	<i>Secretary</i>

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the
Tavern Club, May 19.

DR. L. P. SPEARS	<i>President</i>
DR. CHAS. W. HIBBITT	<i>Treasurer</i>
DR. EDWIN T. BRUCE	<i>Secretary</i>

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, May
6 and 20.

DR. J. GARLAND SHERRILL	<i>President</i>
DR. J. ROWAN MORRISON	<i>Vice President</i>
DR. FRANK C. SIMPSON ...	<i>Secretary and Treasurer</i>

WEST END MEDICAL SOCIETY; meets at the Old Inn, May 10.

DR. I. A. ARNOLD	<i>President</i>
DR. H. L. READ	<i>Vice President</i>
DR. JOHN K. FREEMAN ...	<i>Secretary and Treasurer</i>

CENTRAL KENTUCKY MEDICAL SOCIETY; meets at Lancaster, Ky.,
July 21, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets at Elizabethtown, Ky.,
August 11, 1910.

KENTUCKY STATE MEDICAL ASSOCIATION; meets at Lexington,
Ky. Date not determined.

AMERICAN MEDICAL ASSOCIATION; meets at St. Louis, Mo., June
7-10, 1910.

THE American Practitioner and News.

"SEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he ~~must~~ say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., JUNE, 1910.

NO. 6.

Editorials

A SANE FOURTH.

The fear of Halley's comet has disappeared from the minds of the people, but there still remains for serious consideration the sky-rocket and the toy pistol that annually leave trailing behind their disastrous effects.

True patriotism is to be encouraged, but Independence Day should not be made a day of licensed lawlessness, a day of peril to life, limb and property, a day of noise and destruction—features too anarchistic to rebound to the credit of our national intelligence or to reflect genuine patriotic spirit.

In the last seven celebrations 34,000 persons were killed, blinded and maimed. The casualty list of a single Fourth of July records 446 killed and 3,983 injured; in one Fourth the loss of property by fire in 200 cities was estimated at \$400,625—such a cost, such a holocaust calls for serious consideration.

When the casualties of the inglorious, irrational Fourth, as we celebrate it, are compared to the American

loss (458 killed, wounded and missing) in the Battle of Bunker Hill, and to the American loss (150) in the Battle of Saratoga,—one of the fifteen decisive battles of history, we cannot but realize the great sacrifice annually made of innocent children to instill them with patriotism. It has been well said that we now prepare for a Fourth as we do for a great battle, that hospitals are stocked with bandages, ambulance service increased, corps of nurses enlarged and unusual supplies of tetanus antitoxin bought.

The trivial (?) blank-cartridge wounds of the toy pistol have proven as serious as the leaden ball of the musket. Records show that more than one-third of the annual deaths from tetanus occur during the month of July. The Fourth of 1903 was responsible for 415 reported cases of "patriotic tetanus." Roswell Park estimated that 8,000 deaths from tetanus, as the result of the toy pistol, had occurred in this country in the last twenty years.

A study of these appalling lists of fatalities raises the pertinent question, to what extent is the profession responsible. Can the physician hold himself blameless who neglects the well defined treatment of blank-cartridge wounds—no matter how slight they may appear? Is the family doctor free from censure who delays prophylaxis until tetanic symptoms are manifested?

If there is any disease whose treatment is distinctly prophylactic—it is tetanus; when symptoms appear, treatment is then too late. An eminent German authority has pointedly remarked that the patient who is just showing tetanic symptoms is not beginning to have tetanus—he is beginning to die from it. Therefore let the profession be rationally radical in the preventive treatment and use its great influence in urging the prohibition of the sale and use of toy pistols in the celebration of the Fourth.

Professional and popular education will arouse a sentiment that will secure at least restrictive, if not prohibitive legislation, in spite of any opposition that the business interests affected might offer.

The salutary effect of such prohibitive legislation is strikingly evidenced in last year's records. Baltimore under it had but 19 accidents, as compared to New York's 1,297. That in Washington not a single accident was reported, and in Cleveland only four slight injuries were reported bespeaks the best testimonial for the prohibitory ordinance.

Hamilton, Ohio, has caught the spirit of reform. Very recently its city council passed an ordinance prohibiting the sale of fireworks; the dealers objected, claiming that such an ordinance meant a serious financial loss to them having already purchased their stock. A fund was raised by the citizens, the fireworks were bought up and will be used in a public exhibition and the ordinance remains effective.

Many cities are now substituting parades, picnics, public addresses and athletic games as safer and saner modes of celebration. When this is more generally done, when the sale of blank cartridges is prohibited, the use of fireworks restricted to public displays, when prompt antitoxin prophylaxis and radical surgical treatment is employed in every case of blank cartridge wound—then will the Fourth be stripped of its horrors, and only then will municipal guardians and physicians be free of the charge of criminal negligence.

We suggest that the State Board of Health be requested to urge the Mayors of all cities and towns in Kentucky to enforce all ordinances prohibiting the abuse, and if no such ordinances exist in their respective cities and towns, that they recommend to their General Councils or Boards of Trustees the enactment of such ordinances.

President Taft for once uses Rooseveltian form of expression when he says:—"I am heartily in sympathy with the movement to rid the celebration of our country's natal day of those distressing accidents that might be avoided and are merely due to a recklessness against which the public protest cannot be too emphatic."

Original Articles

THE HOME TREATMENT OF TUBERCULOSIS.*

BY DUNNING S. WILSON, M.D.

Louisville, Ky.

Much has been said and written on the subject, yet the reiteration of the salient points in the treatment will only serve as an emphasis and something may be learned by the mere repetition. There will be no attempt to give anything but the personal observations of the writer, which extend over a period of several years, and the experience which comes from treating nearly six hundred cases, including both private and dispensary patients.

Unfortunately no sanatoria or hospitals have existed nearby where advanced cases of tuberculosis might be treated, and therefore it has been incumbent upon the patient's family to provide such facilities as they could afford in the home.

Probably the first and most important factor in the treatment of tuberculosis is a frank statement to the patient regarding his or her condition, not that they should be told how far advanced the case may be, but there should be a fair and perfect understanding between patient and physician as to what the disease is that has reduced his strength, etc.

Many are the objections often raised by solicitous members of the family, but none of these should outweigh the physician's prerogative of seeking to place the necessary facts in the hands of the invalid himself.

Three (3) logical and unanswerable reasons may be urged for so doing, and the first of these is the prevention of infection, which comes so often through lack of understanding on the part of the sick one. When a pa-

*Written for this Journal.

tient has been told that he or she has tuberculosis and an inquiry made as to whether they are desirous of infecting any of the family, the answer is always in the negative, and immediately an unselfish and proper interest is aroused in the patient which from a psychological standpoint alone is an excellent strategic move, giving the patient some one else to consider than himself.

The second reason may be briefly stated as follows: after a quiet, careful summing up of the situation by the physician, in which he outlines the necessary self denial and constant attention to instructions, it will be found that most persons will more readily agree to following such rules as may be laid down, whereas, if no statement is made as to the character of disease the rules will be followed but partially, then only in a blind fashion, and usually for a short period varying with the individual's temperament.

In offering the third reason it must be kept in mind that we are dealing with a chronic disease, the treatment of which is monotonous, requiring all that a person may have of fortitude, cheerfulness and unwavering fidelity; that upon its successful outcome depends the life and character of our patient and indirectly the reputation of the physician. Against all opposition, the writer maintains that a fair, honest and correct statement is the only one which will bear the brunt of the grueling conflict and unless the patient can feel that in the physician he will find truth, hope, courage and friendship no truly successful result will be obtained. Equivocations, subterfuges, misstatements, however condoned in certain other diseases, have absolutely no place here.

It has been the habit of most writers on this subject to commence their essay by a consideration of fresh air, holding that this is the most important element in the cure. With a full realization of this fact before me I still have no hesitation in saying that rest probably plays a more important role and my reasons for so doing are based upon the many cases which are seen that have for years lived in comparative ease because of more or less periodic acute exacerbations during which they have

been forced into obtaining complete rest from work, following which a certain amount of repair ensues only to be repeated upon other occasions, thus maintaining without any special attention to fresh air a remarkable length of days.

The physician's definition of rest in the treatment of tuberculosis must be carefully explained and firmly insisted upon if cure is to be looked for. Generally speaking, every patient, whose temperature reaches a daily maximum of 99 3-5 F. or whose pulse rate ranges between 90 and 100 should be kept in bed continuously.

However, there are notable exceptions for instance should a case be afebrile for two months with a pulse of 80 and on light exercise, yet show no improvement in the lungs, the patient should be put to bed and kept in bed for at least a month, when another examination will often reveal a pleasing improvement. Other cases where the temperature never reaches above 98 4-5 F. or even normal, will often show a temperature as low as 97 F. with a fairly good pulse, yet these patients should be kept in bed until a thermal equilibrium is established. Lying in bed does not always mean resting, so it is incumbent upon the medical adviser to strictly limit the amount of reading, sewing or talking and even closer supervision is required with regard to visitors, whose friendly intentions often defeat the object of their desires. The ideal rest is as much a perfect mental state as it is a physical inertia and can only be obtained by constant practice. It is not too much to say that the physician may, by his teaching, aid the acquirement of knowledge as to the true definition of rest.

Rest and exercise are so closely interwoven that the mention of one but serves to recall the other, so it may not be inappropriate to consider it at this time.

Roughly speaking, after a case has kept a temperature never exceeding 99 1-5 F. for from four to six months, or has run a normal temperature for fourteen days, we may venture to think of allowing some exercise and permission may be granted to allow the patient to sit up in a chair for a half hour (without dressing) tak-

ing the temperature before getting up and immediately upon returning to bed.

If no rise in temperature follows this first attempt then the period of sitting up is increased ten minutes each day the temperature to be taken as in the first instance. After the sitting up period has reached three hours the patient may be permitted to walk the length of an ordinary room to the chair and after sitting up for the allowed time to walk back to the bed. This amount of walking is gradually increased along with the ten minutes each day mentioned above until we find that the former bedfast invalid is sitting up eight hours a day and walking the equivalent of a city block. Should he now desire to go downstairs to his meals we drop back the sitting up period to six hours and he is permitted to go down to a meal, resting quietly for a half hour after eating before returning upstairs. No more exercise to be permitted that day, nor for three days thereafter except the daily excursion to the downstairs.

We are now approaching the most crucial time in the home treatment of tuberculosis, for, from this time forth the patient gradually becomes a normal member of the household, where temptations continually arise to woe unwary feet from the path of duty. It is also a time when the physician, unless fortified by previous experience, will permit a laxity of rules to prove his undoing. Pneumatic or lung exercise may be mentioned here but only for the purpose of condemning it; the only natural and proper way to develop respiratory function is by walking, riding, golfing, rowing, tennis, etc., the last four to be done only in moderation and not of course, until a cure is practically assured, the lung showing no activity in the form of rales.

Securing fresh air in the home, while upon the surface, presenting but little difficulty, is really at times a serious problem, owing to the many inconveniences attendant thereon. Once secured, however, the object lesson which is synchronous with its attainment and which is forced upon the other members of the family is truly delightful and warms the "cockles of one's heart" to see

how every body in the house begins to let a little sunshine and fresh air into their rooms. In the homes of the poor, fresh air in winter is permitted access grudgingly, owing to the increased coal bill as well as to certain preconceived prejudices against it; but even the well to do often object to the wintry blasts because of ignorance or a slight feeling of discomfort which accompanies the first practical application of the "cure."

Undoubtedly, out of doors is preferable to a room with open windows, but in certain cases which require careful nursing or that are not permitted to get out of bed, a room having several windows is to be selected and used until the condition of the patient does not require frequent disarranging of the bed clothes. Twenty-three hours of each twenty-four should be spent either in the open air or in a room with the windows wide open, no matter how cold or disagreeable the weather, and *no fire* should be in the room. When it is desired to warm the room for the purpose of giving a bath the windows may be closed and a fire started or an adjoining room door opened. Sufficient bed clothes are to be used and if needed, hot bricks, stone lids or hot water bottles (though these latter do not retain the heat long), put in the bed to insure warmth of the patient. As to whether the sleeping porch or room should face north, east, south or west, depends not so much on the points of the compass as on freedom from street dust, noises, unsightly buildings, odors from kitchen, soot, convenience of access, beauty of view, and a thousand and one other considerations, all of which must be left to the physician's judgment. Do not let us be cranky about whether the southern sun or the northern blizzard shines or blows in the porch or room, but select the place that must be home, theater, country, parlor and playground for its fitness and not because it faces a certain cardinal point of the compass.

Draughts are ridiculous bugaboos, so no thought need be given about placing the chair or bed in a certain part of the room to avoid draughts. An excellent arrangement for the proper circulation of air in a room is found where two windows are situated opposite to each

other and the patient may lie between the windows or close to one of them having the opposite window open as well. "The worst air out of doors is better than the best air indoors," so the windows need never be shut on account of inclement weather. If the snow or rain drive in move the bed back so the patient will not get wet, or if there are outside shutters they may be closed till the storm is passed.

The study of food values has taught some important facts which aid materially in selecting easily digested and palatable feed for helping up the body resistance.

Milk and eggs *ad infinitum, ad nauseum* have held prominence in the treatment of tuberculosis, and rightly so, from a purely chemico-physiological viewpoint but the psychology of digestion and assimilation, though in its infancy, probably exerts a more powerful influence upon digestibility and assimilability than stomatologists are prepared to admit. Many persons will attempt to devour eggs and milk and will succeed in consuming astounding quantities for a short period when suddenly a most profound distaste arises and we are confronted with the problem of suggesting other and as useful diet.

The better plan is to use milk and eggs in moderate quantities along with meats, vegetables and sweets, rather than to force the feeding with a daily diet of one dozen or two dozen raw eggs and from a half to a gallon of milk.

Eggs and milk may be used in the preparation of other dishes and thus we may accomplish the same object, make the food more palatable and appetizing, yet avoid anything suggesting distaste. In certain high temperature cases nothing has served such a useful purpose as small quantities of hot milk (not boiled) given at regular hours. We find patients running a maximum temperature of 103 or 104 F., with great distention, some pain in abdomen, coated tongue, yet being forced to eat when they are unable to handle large quantities of food. This class of patients should be thoroughly cleansed with a calomel purge after which hot milk two tablespoonfuls every two hours may be given, gradually increasing the amount until within ten days they are taking from

six to eight fluid ounces every two hours. It is often surprising how well they get along on such a diet and usually look forward to each feeding with pleasant anticipation. Hungry stomachs digest the best, and hot milk is the best to digest. After a period of two or three weeks the diet may be modified by giving hot milk at each meal hour and once between making six feedings a day, and at the meal besides the hot milk, give a very light diet, more to tempt the appetite rather than for its nourishing qualities. As the general condition of the individual improves the diet may become more generous until cold milk may be substituted for hot, or the milk may be discontinued at the mealtime.

If possible, the hot milk at night before sleeping, should never be omitted except in the hottest weather.

Sweets in the form of simple desserts, chocolate, and candy have a place in the dietary, but only after, and more as a reward for, eating a substantial meal. Reference is made to those cases that are doing well and not to those whose digestive faculties are below par. Do not forget that the stomach contents of tuberculosis patients shows as a rule, that there is a deficiency of hydrochloric acid, so it is often good practice to supply this acid either in the form of a small amount of acid fruit or better still by giving eight or ten drops of hydrochloric acid before meals in a little water.

Above all, teach your patients to "Fletcherize," they have nothing to do but occupy their time in following directions and nothing will assist in the proper assimilative of food more than thorough mastication. Food, which has been intimately mixed with the saliva, comminuted so that a uniform consistency is obtained, will more readily serve its purpose though theoretically "*indigestible*."

Medicines should play but little part in the treatment of tuberculosis, but it will often require considerable self-control on the part of the physician to refrain from medication. Remember, that few remedies are remedial, that a masterly inactivity is the mark of great ability, and that with the exception of using simple medicines to move the bowels most prescriptions complicate the cure.

NON-GONORRHEAL URETHRITIS.*

BY HERBERT BRONNER, M.D.,

*Adjunct Professor of Genito-Urinary and Cutaneous
Diseases in the University of Louisville.*

One of the most neglected fields of genito-urinary work is non-gonorrheal urethritis. Some books ignore the subject entirely, while others dismiss it with a few words. When a practitioner assumes every urethral discharge to be gonorrheal in character, without making a careful examination as to the causation of the same, he is not only doing work which is unscientific but he may be doing a great injustice to some man or woman. Henry Morris aptly says, "It is important to bear in mind that one who leads the purest of lives may be the subject of an acute urethritis and that, for the peace of mind of others, as well as of the patient himself, the surgeon should be able to diagnose the non-specific from the specific form."

It will be the purpose of this paper to consider fully the various possible causes for non-gonorrheal urethritis and also to give a brief outline of the symptomatology and treatment of the same.

The various causes of this condition may be grouped under four main heads: traumatic, irritative, mechanical, and infective.

Cases of traumatic urethritis are due either to instrumentation or to irritating injections. The unskillful and rough use of instruments, especially dirty instruments, may cause a urethritis. The discharge usually comes on quickly and is purulent in character. Prolonged retention of a catheter may also excite a urethral discharge. The injection of strong solutions frequently causes a urethritis. These injections are generally employed to prevent or to abort a gonorrhea and the patient will sometimes come to the physician for what he believes to be gonorrheal urethritis. The symptoms in this class of cases are usually striking. There is decided pain on

*Read before the Louisville Society of Physicians and Surgeons.

urination, swelling of the mucous membrane, especially the meatus, and a purulent discharge, sometimes blood-tinted. The three drugs which are mostly used are bichloride of mercury, silver nitrate, and carbolic acid. As to the treatment in these cases, instrumentation urethritis may be avoided by the gentle and skillful use of all instruments within the urethra, especially metallic instruments. Furthermore, these instruments must be clean and the channel must be rendered as clean as possible by flushing with antiseptic solutions.

All forms of traumatic urethritis should be treated, once the attack has begun, by discontinuing the cause, whether some instrument or injection, by freedom from sexual excitement and alcoholic irritation, by copious draughts of water, and the use of alkaline diuretics. Rest in bed and hot sitz baths may be necessary if the symptoms are very acute.

Irritative Urethritis.

Under this head come those rare cases due to certain drugs and a few articles of diet. Potassium iodide, cantharides, cubebs, copaiba, turpentine, arsenic may cause a slight mucoid discharge which always disappears on discontinuing the drug.

Alcohol in any form is a very decided irritant to the urethra. In fact it is an irritant to any part of the genito-urinary tract. In certain susceptible individuals the use of alcohol is followed by urethral discharge. The combination of sexual excess and alcoholic indulgence, a combination which is not uncommon, is more apt to cause a discharge. While this form of urethritis usually responds readily to mild treatment, that is sexual rest and freedom from alcoholic beverages combined with the free use of water and mild alkaline diuretics, the writer has seen several cases of this kind which required local measures in the way of astringent irrigations or injections before a cure was accomplished.

A very important class of cases of non-gonorrheal urethritis is that due to certain diathetic conditions. Under this head are the cases due to calcium oxalate, uric acid and urates, and phosphates in the urine. Cases

of urethritis due to these various irritating crystals are frequently mis-diagnosed and men are given credit for gonorrheas which they never had.

Urethritis due to calcium oxalate is not at all uncommon. The oxalates occur in three forms in the urine: the envelop, the diamond, and the dumb-bell. Clinical observation shows that the diamond shaped oxalate crystal is the most irritating and most likely to result in urethral disturbance. The urethritis of this type is characterized by a muco-purulent discharge, burning on urination, which is sometimes severe, an uncomfortable sensation throughout the urethra, and often a frequent desire to urinate, due to irritability of the posterior urethra and neck of the bladder. These patients often have other very striking con-comitant symptoms: pain in the back, in the kidney, radiating down the ureter; great mental depression sometimes amounting almost to a melancholic condition, and digestive symptoms. While the discharge is sometimes decidedly purulent in character, the differential diagnosis from gonorrhea is easily made: the absence of gonococci from the discharge and the finding of the offending crystals clearing up the diagnosis.

As to treatment in these cases, the patient must be informed from the beginning that the urethritis is only a local manifestation of a constitutional condition and for this reason, in order to recover, he must observe a strict regime. Certain foods should not be allowed in any quantity, breadstuffs, potatoes, corn, rice, hominy, pastries, asparagus, tomatoes, rhubarb, celery, etc. Alcoholic beverages should be prohibited. These patients should be required to drink large quantities of pure water. In a medicinal way, the nitromuriatic acid five to ten drops or the dilute nitro-muriatic acid thirty drops after meals is often efficacious. Occasionally a patient will not do well under this drug; in these cases the alkalis will serve the purpose much better. It matters not what internal treatment is used, the patient must be instructed to keep up the treatment for a long time, gradually reducing the dose of the nitro-muriatic acid or the alkali, as the case may be, and only gradually returning to his old regime as regards diet. While most cases

of oxaluric urethritis respond to internal treatment, there are some which do not; the catarrhal condition resulting from the constant irritation of the crystals demanding some local treatment before a cure is effected. Mild astringent injections such as the Ultzmann injection or mild hot anti-septic irrigations will serve the purpose.

The presence of uric acid in any quantity in the urine will produce a urethritis in some individuals similar as to symptoms, to oxaluric urethritis. In the cases seen by the writer the symptoms in lithemic urethritis have not, as a rule, been as severe as in oxaluric urethritis, the small diamond and envelop shaped oxalate crystals seeming to act as a greater irritant to the mucous membrane than the uric acid crystal.

The pain and burning produced by the uric acid crystals are not as poignant; nor, as a rule, is the discharge as decidedly purulent in character. In severe cases of lithemic urethritis, the urine is loaded with the crystals, forming a beautiful macroscopic sediment in the specimen. The differential diagnosis is easily made with the microscope. A great many patients suffering with this form of urethritis will present other manifestations of lithemia or will give the history of having had other manifestations of this diathesis. A few cases will illustrate.

A man, 40 years of age, presented himself with a urethritis. Examination of discharge negative to bacteria; examination of urine showed abundant uric acid crystals. This patient had severe and painful swellings in several of the smaller joints and chronic angina. All the symptoms cleared up under appropriate treatment.

A child, two years of age, was brought for urethral discharge. Examination showed a purulent discharge, angry looking meatus, edema of prepuce, body covered by universal dermatitis. The discharge was negative to bacteria; a specimen of urine obtained with difficulty, showed abundant uric acid. The interesting feature of this case is that the infant's grandfather is subject to recurrent attacks of lithemic urticaria and that its father has had a particularly severe attack of oxaluric urethritis.

A man, twenty-five years of age, consulted the writer for a severe urticaria, mentioning only as an incident a slight muco-purulent discharge. Both discharge and urticaria disappeared under treatment directed toward his uric acid tendency. This patient's father is a decided rheumatic; one uncle passed several uric acid stones; one aunt died at a comparatively early age of apoplexy, with advanced arterio-sclerosis of lithemia origin.

In treating these cases the same warning must be given as in the treatment of the oxaluric urethritis—that is that the treatment must be carried out most faithfully, that it must be kept up for a long time, and that only gradually can a return to the old life be hoped for. Your lithemic patients are frequently men who like the good things of life and for this reason are apt to be hard to control. They are likewise apt to be men who lead sedentary lives and in whom elimination is not at its best.

As to diet—a diminution must be made in the proteid element of food-stuffs. Dark meat should be eliminated for the time, especially rich beef. Light meats, fish, sweet-breads, are permissible. Rich soups and eggs in quantities should be eliminated. Exercise should be encouraged, golf being a game often suitable for these patients. Pure water should be taken in quantity, lithia water being especially efficacious. Bathing in sufficient amount to encourage elimination through the skin is helpful. These lithemias are often constipated and for this reason a daily bowel movement should be required.

Among drugs, urotropin twenty to thirty grains a day has often proved efficacious. Occasionally this drug will cause untoward symptoms such as pain in the back, frequency of urination and burning. Under these circumstances it must be discontinued or the dosage reduced. The alkalies are sometimes helpful. The bicarbonate of sodium or potassium, the citrate of lithium, the citrate of potassium either plain or in the form of neutral mixture, the acetate of potassium, etc., may be employed. Sometimes a combination of urotropin with an alkali seems to act better than either drug alone. In some cases, especially where the urethritis is accom-

panied by rheumatic symptoms, the salicylates combined with an alkali are efficacious.

A very difficult class of cases to handle are those where both uric acid and oxalates are found in the urine or where on one examination you find one form of crystal and perhaps in the next, the other. These cases are trying both on the doctor and the patient. Elimination must be encouraged, the diet should be a mixed one, and in a medicinal way the best combination is one of urotropin and an alkali.

Urethritis due to phosphates is usually found in men who are rather of the neurotic type. The writer has seen it in men who are under nervous strain, for example medical students at examination time. The symptoms are a slight muco-purulent discharge and burning on urination, referred chiefly to the meatus. Examination of the urine shows the alkaline or earthy phosphates. Urotropin or nitro-muriatic acid is the best agent in this condition.

Mechanical Urethritis.

Under this head are included those cases of urethritis due to the mechanical irritation of some neoplasm, eruption, or foreign body in the urethra.

Herpetic urethritis is characterized by a slight mucoid discharge, neuralgic pain in the urethra, and usually accompanied by external herpes. The writer has a patient who is subject to recurrent attacks of this kind.

Eczema of the urethra has been mentioned and also a slight discharge accompanying the exanthemata. Papillomata and polyps of the urethra are accompanied by slight mucoid discharge. The absence of bacteria in the discharge and the finding of the lesions with the urethroscope clear up the diagnosis. The treatment of the condition is removal of the growth.

Cancer of the urethra may cause a urethritis. Primary cancer is rare and is usually found in men over fifty years of age who have had stricture. It is usually located in the bulbous or membranous urethra. Symptoms are a purulent discharge, painful and difficult urina-

tion, increasing infiltration of the urethra, later on a breaking down of the mass with discharge of bloody, purulent material and lymphatic enlargement. Treatment is early removal.

Syphilitic urethritis may occur in the primary, secondary or tertiary stage of the disease. Whenever a patient complains of a slight sero-purulent discharge, coming on after an incubation period of over ten days, a careful investigation should be made of the channel and the lymphatic glands. If a hard nodular mass is found, sometimes as far back as the sulcus, and if bi-lateral inguinal lymphatic enlargement is found, a diagnosis of urethral chancre can be made. A slight mucoid discharge may occur during the secondary stage. Finger's splendid description of this condition is worth repeating:

"Mild mucopurulent catarrhs of the urethra with slight secretion which are manifested merely by agglutination of the meatus and a few flakes in the urine, may occur as symptoms of syphilis. Lee, Vidal, and Hammond discuss this affection but the most detailed description was furnished by Tarnowsky. They consist in the formation of superficial erythematous or papular efflorescences on the mucous membrane of the urethra which occur as a part of a general secondary syphilis or alone as a relapse of the secondary syphilis. These erythematous or papular ulcerations secrete the small amount of catarrhal or, though rarely, purulent secretion, which appears at the meatus and simulates blenorrrhea. Examination of the secretions, the demonstration of recent syphilitic symptoms or their residua, the previous history and the results of anti-syphilitic treatment prove the diagnosis of syphilis as distinguished from blenorrhagic urethritis."

The cases of urethritis in the tertiary stage are usually due to the presence of gummata of the urethra. The treatment for the urethritis in any stage is the specific treatment of the disease.

Chaneroidal urethritis begins at the meatus and extends backward along the urethra. The short incubation period, the purulent discharge, containing no gonococci, the tendency to suppurating adenitis, the presence of

chancroids elsewhere on the genitals, clear up the diagnosis. Treatment is that for chancroid elsewhere.

An impacted calculus may cause a urethritis. The history in these cases is that the discharge has been preceded by sudden stoppage of the urinary flow. An investigation with the sound or urethroscope finds the foreign body. Removal is the treatment.

Infective Urethritis.

Under this head are included staphylococcic, streptococcic, bacillus coli, pseudo-gonococcic, tuberculous, typhoidal, influenzal, pneumococcic and diphtheritic urethritis.

Staphylococcic or streptococcic urethritis is contracted in one of three ways—through sexual intercourse, the introduction of germ laden instrument, or the lighting up of dormant organisms in the urethra through alcoholic indulgence or sexual excesses. When contracted in the first manner the history is that the patient has had connection with a woman suffering from a severe and irritating leucorrheal discharge. After an incubation period, longer than the average gonorrhea, a purulent discharge appears accompanied by only slight subjective symptoms. The discharge is never as abundant as in a gonorrheal urethritis nor is it as intensely florid. The lips of the meatus are not as inflamed nor are the subjective symptoms as marked. As a rule, under proper treatment the course of the disease is not long lived. While this is true of the majority of cases, the writer has been several cases which were very rebellious to treatment and persisted for a long time. His experience in this respect has been verified by others. Waelch and Galewsky report several cases lasting years and White and Martin make this statement: "Exceptionally the inflammation is as violent and prolonged as if from gonococcic infection. In strumous and cachetic individuals the discharge may remain slight but persists for weeks and months in spite of treatment."

Casper says that the prognosis in these cases is not so favorable as is generally understood and that he has

seen cases, which have led to complications including prostatitis, in spite of treatment.

In treating these cases the same hygienic rules must be observed as in handling a case of gonorrheal urethritis—freedom from sexual excitement and alcoholic indulgence, etc. Internally, the use of antiseptics such as urotropin, boric acid or salol and plenty of pure water. Many of these cases will get well under this simple treatment. It is always best to try these measures first, as there is no doubt that some cases might be prolonged by over treatment. If these measures prove insufficient, mild hot antiseptic irrigations such as boric acid or weak potassium permanganate, with or without an astringent injection may be used. If these prove insufficient strong permanganate irrigations, with an antiseptic hand injection may be employed. In those particularly rebellious cases even stronger measures may be indicated. In a recent case the writer effected a cure with moderately strong silver nitrate irrigations combined with the staphylococcal vaccine.

Pseudo-gonococcal urethritis simulates true gonorrhea very closely. A differential diagnosis can only be made with the microscope, the pseudo-gonococcus not being decolorized by Gram's method. As far as the treatment is concerned it differs little from that of true gonorrheal urethritis.

The colon bacillus has been found in urethral discharge. But such cases of urethritis are always secondary to colon bacillus infections of the upper part of the genito-urinary tract as the bladder, ureter or pelvis of the kidney. The cure, therefore, of the urethral infection is dependent entirely on removal of the primary cause.

Tuberculous urethritis. Primary tuberculous urethritis is very rare. In the secondary form involvement of the prostate, seminal vesicles, bladder, etc., are found. This form of urethritis is characterized by a persistent discharge which resists all ordinary treatment and is aggravated by nitrate of silver irrigations. When the posterior urethra is involved, and it usually is, there is frequency of urination, tenesmus, and haematuria. The

finding of the tubercle bacillus, the positive reaction to the tuberculin test, the endoscopic picture, and the results of the examination of other organs clear up the diagnosis.

The general treatment of tuberculous urethritis is the same as that of tuberculous involvement elsewhere. Strict attention to a liberal diet and to the life in the open must be observed. Locally, mild dichloride of mercury irrigations and instillation of iodoform emulsion is the best treatment. Isolated lesions may be curetted.

Typhoidal and influenzal urethritis are probably not due to the specific organisms; most authorities agreeing that the congestion of the mucous membrane incident to the diseases favor infection by the colon bacillus and the pyogenic organisms. Cystitis always accompanies the urethritis. Treatment consists in the use of urinary antiseptics.

On the other hand, pneumococcic and diphtheritic urethritis are specific. Some observers have found the organisms on bacteriological examination. Moreover in diphtheritic urethritis there is a membrane formation. In the cases reported of diphtheritic urethritis the treatment consisted in the use of anti-toxin and mild antiseptic irrigations.

IRITIS.*

BY GAYLORD C. HALL, M. D.,

Louisville, Ky.

It is not the purpose of this paper to discuss the subject of iritis in all its phases, but rather to indicate some of the means that have been of use to the writer in the management of these cases and to give the experience of some recent writers on the subject. While it were better, as a rule, for the treatment of these cases to be entrusted to one having special knowledge of eye diseases, it is nevertheless a fact that many times they come under the

*Written for this Journal.

observation of the general practitioner and he must therefore be prepared to diagnose and treat the condition.

Furthermore, it is of the utmost importance to the integrity of the eye that an early diagnosis be made and prompt and efficient treatment instituted.

Etiology.—It is a well known fact that syphilis and rheumatism furnish by far the greater number of instances of this affection, but an article by Jennings and Hill from Wills Hospital, and published in *Ophthalmology*, October, 1909, is not without interest. I publish their table in full.

TABLE—ETIOLOGY OF 500 CASES OF IRITIS.

Cause	No. Cases.	Percentage.
Syphilis	307	61.4
Rheumatism	127	25.4
Gonorrhea	26	5.2
Influenza	7	1.4
Exposure	7	1.4
Tuberculosis	6	1.2
Malaria	6	1.2
Child-birth	3	.6
Typhoid fever	2	.4
Intra-uterine Inflammation . .	2	.4
Diabetes	1	.2
Gout	1	.2
Pneumonia	1	.2
Cerebro-spinal Meningitis . . .	1	.2
Measles	1	.2
Lead Poisoning	1	.2
Rhus Toxicodendron Poisoning	1	.2
	500	100.00

From this table it appears that syphilis, rheumatism, and gonorrhea together cause 92 per cent. of the cases. Of the 307 syphilitic cases; 234 were males, 73 females. Both eyes were involved in 81 cases; but one eye in 226 cases.

It was further noted that specific iritis was usually a secondary manifestation, though the so called gummatous cases occurred 34 times. That recurrent attacks are comparatively infrequent and the disease is apt to affect one eye alone.

It was found that rheumatism was responsible in 25.4 per cent. of cases. That it was more frequent in males—two to one. It was further observed that recurrences were frequent as compared to syphilis and that cases following the joint attack were more frequent than cases coincidental with it.

The next most frequent cause was gonorrhea and it is interesting to note that of the 26 cases reported, ten of the cases had had arthritis, presumably gonorrheal. In the other sixteen cases there was no history of arthritis. All cases occurred in males.

Influenza was responsible in 1.4 per cent. of cases. It is no doubt of toxic origin and is apt to be severe.

Tuberculosis occurred in 1.2 per cent. Six cases, three males and three females. In five cases the cornea was involved forming a kerato iritis. In four cases both eyes were involved with lesions in other parts of the body. The diagnosis rested upon the use of tuberculin subcutaneously, which by the way, has been used with curative effect or marked benefit in many cases of this nature.

The remaining etiological factors are not especially noteworthy. They quote an observation of Hutchinsons that iritis in diabetes is very rare unless the patient has had gout so that the infrequency of that disease in this country accounts for the small number of cases observed of that nature.

In conclusion they remind us that the manifold affections set down therein as the cause of iritis makes it imperative upon the attendant to look further into the history of the case than syphilis and rheumatism.

Symptoms.—The symptoms of iritis are objective and subjective. The objective symptoms are prominent, consisting of redness of the eye ball, this redness being of a peculiar character, a brick red or blueish red color and

most intense immediately surrounding the cornea, hence the name circum-corneal.

It is also called ciliary, since it is due to engorgement of the ciliary vessels. This redness fades as the cul-de-sac is reached, being distinguished in this respect from conjunctivitis, which injection is greater at the fornix and lessens as the cornea is approached.

This injection is accomplished by a considerable lachrymation, not a discharge in the sense that we have in conjunctivitis, but an expression of the irritation. We may, however, have a conjunctivitis accompanying the iritis. There is usually drooping of the eye lid.

On examination by oblique illumination we further observe the anterior chamber unaffected, or deep in serious iritis—pupil contracted and irresponsive to light. The finer markings of the iris are lost and it has a muddy look—blue and gray irides appearing green; brown appearing muddy.

The cornea is less clear than normal, due either to deposits on its posterior surface or infiltrations on the substantia propria. The aqueous may be hazy, turbid or contain actual exudates.

On telling the patient to look down and applying our fingers to the upper part of the ball to test the tension, an exquisite tenderness is usually complained of. The tension as a rule is unaffected; it may be slightly elevated in the early stages.

If a mydriatic is used to dilate the pupil, the iris responds very slowly and is sluggish, due to attachment of the posterior pigment surface of the iris to the anterior capsule of the lens.

When the synechia are broken up these pigment deposits remain on the lens and can be seen by oblique illumination or with the ophthalmoscope.

The subjective symptoms are pain in the eye, apt to be severe, and radiating over the side of the face and head, especially at brow and temple.

The pain is usually throbbing or stabbing in character and apt to be much worse at night. One may complain of a "neurralgia" over all that side of the head. Tenderness of the eye ball to slight pressure has been noted.

Loss of vision is variable and depends upon the severity of the attack, its cause, and the involvement of the refracting media.

Photophobia is present in all severe cases. A malaise and marked depression are often noticed by the patient.

Diagnosis.—A careful examination of the case with observation of the above symptoms should make the diagnosis of iritis comparatively easy. Unfortunately, a disease having many etiological factors and myriad gradations in severity is apt to be confounded with other conditions and such is the case with iritis.

The diseases to be distinguished from iritis are conjunctivitis, keratitis and glaucoma.

Conjunctivitis is characterized first by the different form of injection; the lids sharing in the diffuse redness which becomes more marked as the fornix is reached.

In the amount and character of the discharge, this being one of the prominent features of conjunctival inflammation.

The media are unchanged, the pupil unaffected and vision interfered with only by the amount of discharge and the sensitiveness of the eye to light. The general symptoms of iritis are also absent.

In diseases of the cornea we find a closer analogy in the symptoms.

Here we find photophobia and lachrymation more prominent than in iritis while the general disturbance may be equally as severe. Examination by oblique light shows a mottled or stippled appearance of the cornea, opacity or loss of substance. The type of congestion is practically the same, but careful observation will detect slight differences. The redness is more red and more superficial. It is not as diffuse, but tends to become accentuated towards that portion of the sclera nearest the lesions.

Often a fine leash of vessels may be seen running into the cornea. The pupil dilates readily under atropin.

It seems strange that confusion should ever arise between two diseases so antithetical as iritis and glaucoma, yet such mistakes have occurred. Such a mistake is dis-

astrous, since the treatment of one is almost the worse thing that could be done for the other.

The following symptoms and signs should serve to distinguish the one from the other.

In glaucoma the pain is apt to be more severe and accompanied at times by marked depression, nausea and vomiting.

On examination we find the corneal surface steaming or of a ground glass appearance due to oedema. There may be also loss of sensibility. The anterior chamber is very shallow or obliterated, the aqueous turbid. The pupil is *dilated* and immobile.

A peculiar greenish reflex is sometimes seen on looking through the pupil.

The eye ball is harder than normal, even up to stony hardness, and is to be distinguished from the tenderness shown in iritis when testing the tension. This is the most important symptom with the dilated pupil.

With the ophthalmoscope the vitreous is found turbid and it may be impossible to see the fundus details. If they can be seen an excavation of the nerve head, due to pushing out of the lamina cribrosa is noted, into which the vessels drop, forming angles as they dip over the rim. Loss of vision is usually greater and the whole course of the trouble more rapid than in iritis.

Treatment.—The treatment of iritis must be both local and general. Local in overcoming the effects of the inflammation and exudation on vision, relieving pain and putting the eye to rest. General in combating the underlying cause and removing or hastening absorption of morbid products.

Local measures consist first, in the employment of atropin to keep the pupil dilated and paralyze the ciliary muscle, putting it at rest. A one per cent. solution is the strength most commonly prescribed, but for office use I invariably use atropin in substance. The effect is much more lasting and I have had no unpleasant after effects. If the patient is very sensitive I first instill a drop of cocaine solution and after a few minutes, taking a minute quantity of the powder on the end of a narrow applicator

I tell the patient to look down and deposit the powder on the part of the globe near the sclero-corneal margin. The finger wrapped with gauze is immediately applied to the puncta and the head inclined to the side treated for some minutes. This prevents the drug getting into the nose, causing a disagreeable dryness or symptoms of intoxication. It also gives a more intense atropin effect on the eye.

For home use in adults in severe cases, I often employ a 2 per cent. solution. In cases of ordinary severity 1 per cent. is sufficient. This should be employed often enough to secure maximum dilatation, every two hours if necessary. Usually two or three times a day will be sufficient, coupled with the office treatment with the drug in substance. The important thing is to get the full effect of the drug.

Another drug now much employed in the treatment of iritis, is dionin. This is used in a five to ten per cent. solution. As the first application always causes the most intense reaction, it is best to begin with the weaker solution. It is chiefly a lymphagogue causing an intense temporary oedema with chemosis; this reaction favors resolution. It is also an analgesic and relieves deep seated pain in the eye.

It loses its effect very rapidly, so that it must not be employed continuously. I usually prescribe a five per cent. solution for use three times a day for three days following the atropin, rest for three days and repeat.

Under local treatment the subject of subconjunctival injections should be discussed. In the opinion of the writer it is rarely necessary to employ them except in the severest cases.

Salts of mercury have chiefly been used where other forms of medication seemed too slow. Darier has employed the bichloride in strength of 1-1000, injecting five to ten drops under the conjunctive after the eye had been cocainized. This can be employed every day in case of necessity. It is better to give them less frequently. Patients as a rule do not relish the thought of having a needle stuck into an acutely inflamed eye.

Heat is a measure usually very grateful to the patient. It relieves the pain and brings a feeling of comfort to the eye. Cloths wrung out of hot water suffices, but they rapidly cool, even when covered with oiled silk and cotton. A better method is by means of a Japanese stove or a very small hot water bag.

Cold as a rule is not well borne in these cases, though an occasional case will prefer it. This is best applied by an ice bag or on cloths taken from a block of ice.

The constitutional treatment of iritis varies with the cause. As syphilis is the cause in over 50 per cent. of the cases, one should ever be on the lookout for this disease, even in the entire absence of any history.

Whatever the cause, it is my practice to prescribe at first a mercurial purge, either blue mass or calomel, the amount depending upon the type of the disease and the character of the individual.

If the disease be due to syphilis, I rely entirely on intra-muscular injections of mercury once a week until resolution is well established. I use the injection treatment on account of its greater rapidity and efficiency in bringing the patient under the remedy.

Grey oil is the preparation used; equal parts by weight of metallic mercury and anhydrous lanolin. Two minims of this approximate one grain of mercury; from four to ten minims of this are injected deep into the buttock. Place patient on the side on table, upper leg slightly flexed. Cleanse buttock with soap and water followed by alcohol. Select a spot three inches posterior to great trochanter as site of injection.

For injecting use an all glass Luer syringe; a number twenty platinum needle one and one-half inches long. The needle should be plunged in quickly to cause no pain and detached from the syringe to see that a vessel has not been penetrated. The material is then slowly injected.

As this preparation is solid at room temperature it and the syringe must be heated before using. For that reason a large needle is required. It is hardly necessary to add that every thing in this connection should be as near sterile as it is possible to make it.

I have had no ill effects from this treatment, though in two cases I have had the medicine expelled through the needle path and considerable soreness result. These cases were both in women with very fat buttocks and I believe was due to the fact that the needle could not penetrate the muscles, but deposited the mercury in the fat.

I have had no cases of abscess or embolism. For several days some soreness is present, but this rapidly subsides.

In the rheumatic cases aspirin or sodium salicylate with sodium iodide pushed to the limit of toleration has given me best results. An occasional mercurial purge assists matters greatly. The pain complained of by the patient varies with each case and in the majority is severe enough to demand measures for its relief. In this connection it must be emphasized that opium and its derivatives are decidedly contraindicated, not only on account of suppressing secretion and bad after effect, but also on account of its myotic action neutralizing the effect of the atropin.

Aspirin and remedies of a similar nature have given me best results as analgesics. Aspirin in ten grain doses every three hours will usually give relief or phenacetin, five grains, at same intervals.

It should be remembered that the other measures, both constitutional and local, have also an influence in relieving pain by counteracting the effect of the disease.

Other forms of iritis should be treated along the same general lines indicated above; supportive and tonic measures being given as required.

In a word the general treatment of iritis consists essentially in the management of the disease causing the trouble.

In tubercular iritis good results have been obtained by carefully graduated doses of tuberculin, care being taken that the patient is well over the previous injection before another is given.

Other measures and expedients have been used from time to time in the treatment of this condition, but the limits of this paper preclude their description.

THERAPEUTIC NIHILISM.*

BY GEORGE L. SERVOS, M. D.,

Fairview, Nevada.

Much argument has been advanced by many of the leading teachers regarding the efficacy of medicine in the treatment of certain specific diseased conditions. Some have contended that certain of these diseases are self limited, and regardless of the remedies employed, the condition will continue to exist for a certain length of time, and while the agents employed may possibly show an abatement of the symptoms, they will have nothing to do with the termination. Others argue that when the remedies indicated are employed from the outset, not only will there be an abatement of the symptoms, but in addition, in many instances, the termination will be earlier. Owing to the fact that the first argument is advanced by men who are looked up to as authorities in the matter of therapeutie application, and the second by men who are possibly not teachers and who base their argument upon their findings at the bed side, the ideas of the former, until very lately, have been accepted. It is probable that the arguments against the employment of remedies to cut short pathologic conditions were made because of the fact that the remedies offered were frequently found to vary in activity and that no absolute results could be obtained from them. It is a known fact that many of the galenicals, of the so-called standardized sort, made by different houses, in many instances vary to a very considerable extent in activity, as well as in strength. This variance interferes with both the dosage and anticipated action of the drug, and it is very probable that it is through this lack of dependable features that therapeutie nihilism has been brought about. Those who contend for the use of drugs to combat disease, and who have been able to reduce symptoms and cut short the progress of self limited diseases, have not clung to

*Written for this Journal.

the galenical preparations of the whole drug, but have employed the isolated active principles of the plants and have found that such isolated principles bring about more accurate and absolute results than do the whole plant products. It frequently happens that two plants of the same class, grown under different climatic conditions will vary largely in active principle content, and while the galenic products made from them may be manufactured absolutely according to the accepted formula, one may be exceedingly active and the other only mildly so, or not at all. There is usually a marked difference in the active principle content of different growths of the same plant and if the products made from two lots are not standardized, there is no reliability of strength, action or dosage. Fluid, whole plant products are liable to decomposition after leaving the manufacturer, and no matter if they have been of standard quality when turned out of the laboratory, there is no guarantee that they will remain so until such time as they have been completely used up. Evaporation is liable to occur and when it does there is a greater or less increase in the active principle strength. Others, after being exposed to the atmospheric condition for certain lengths of time will throw down a precipitate and this may contain all of the active principle content, or none at all, and the condition of the remaining liquid is to be determined only by careful analysis. In many instances old products of this sort have been employed to fill the demand of the physician and the results derived therefrom have either been absolutely nil, or too pronounced, the latter dangerously so in some instances. A prescription for a certain galenical filled by one druggist may give all the desired actions, while the same filled by another may be either inactive, or not give the actions desired. Both products might be products of reputable manufacturers, but being made from different lots of drugs, or subjected to different conditions after manufacture, a wide variance has occurred. In consequence of this, the man who wrote the prescriptions, without taking the possibilities numerated into consideration, concluded that all drugs were worthless for the purpose of either meeting symptoms or

shortening the course of disease. Acting upon his findings, after employing such agents, he was justified in pronouncing them worthless and his contention that many diseases were self limited and would run their course, no matter what course was pursued in the matter of treatment, was undoubtedly well taken, as the remedies employed were inactive and he did not get results. On the other hand, the man who employed the isolated active principles of the plant drugs found that there was no variance, at all, as regards activity, dosage or the results obtained and that when he employed the same product in two or more different cases, he always obtained like results. He also found that when he met symptoms with proper remedies, there was an abatement of them and through this many of the self limited diseases ran no regular course, the termination being brought about in much less time than when no medicines were employed. He found that, if his agents were properly manufactured, no matter whether they were fresh from the maker, or had been in his or the druggist's stock for a considerable length of time, no deterioration had taken place, and that he could place the same dependence in his old stock as in his new, and that the actions of both were identical.

In the whole drug product there exists, not only the active principle content, but in addition other constituent parts of the plant, having no remedial action, and in many instances, inhibiting the activity of the active principle upon which the use of the drug is based. In consequence of this, much worthless, and in some instances, dangerous matter is given in connection with the active portion of the drug. When the active principle of the drug is employed, it is isolated and free from the other portions of the plant and consequently has nothing to interfere with its action and in consequence there is no need of experiments to determine either the dose or action.

Many plants contain more than one active principle and the different principles may be, and frequently are, of different action, so that a whole drug product may, in many instances give an action wholly different from the

one anticipated, this being due to the presence of decidedly different proportions of other than the desired principle and the inhibition of the action of that principle because of such presence. Opium, with its numerous active principles, is standardized according to the morphine content and no attention paid to the other active agents contained. If there happens to be a preponderance of one of these, it may mean that a whole drug product may not give the full morphine activity, or that, in addition to such activity, other effects may follow, and to such an extent as to make the product almost, if not quite, worthless as a remedial agent, in that dependence cannot be placed in any regularity of action. When the isolated morphine, or other active principles are employed, the affect of the one principle, and that alone and uninhibited, follows. This is true of many other plant drugs than opium, which carry two or more active principles, and is undoubtedly one of the main reasons why whole plant products are so frequently unsatisfactory and unreliable of action.

It has been contended by some authorities that it is necessary that the plant be given in its entirety and that any splitting up has a tendency to destroy the activity of the drug action. This has not been borne out in a single instance, as it has been found that the isolated are really more active than when combined with other portions of the plant.

It is undoubtedly true that therapeutic nihilism has been due, very largely, to the employment of the undependable galenical products, and their attendant inactivity or great variance in action. Those who have made a study of the application of the isolated active principles have found that they invariably are followed by anticipated results. The nihilist has contended that certain diseases were self limited, simply because of the fact that the remedies he employed did not overcome the symptoms present, while the man who employed the active principles found that he was able to bring the symptoms under subjection and that, by so doing, he was able to either shorten the course of the disease, or abate its fury and that there was a decided increase in the number of

happy terminations. He also found that his patients passed into the convalescent state in much better condition than had been the case when he had employed the expectant, or non-drug, method.

The man who allows Nature to carry the case through to termination, as a rule, does not study the conditions as thoroughly as does he who meets and combats symptoms as they arise, and it is apparent that the latter is the better doctor of the two. He knows and recognizes the symptoms and the conditions which they portray, and also knows what remedies are indicated to overcome the pathologic conditions and bring them to normal and he assists Nature by the judicious employment of the right remedies at the right moment. There would be less therapeutic nihilism if drugs and their applications, in the simplest forms, were given more thorough study.

Selected Article.

PUS IN THE ABDOMINAL CAVITY.

BY JOHN B. DEEVER, M.D.,

Of Philadelphia.

Surgeon-in-Chief to the German Hospital.

The last three decades have cleared up the role of bacteria in pus production, and pathologic physiology has taught us much concerning its meaning. Surgery has turned a flood of light upon the avenues of intraperitoneal infection, and, armed with a knowledge of its principles, has been making an increasingly successful fight against it. Still, infection and its sequel, pus formation within the abdominal cavity, constitutes one of the chief dangers to life and consequently one of the chief problems of surgery.

Pus in the abdominal cavity may be either free or circumscribed. That it may become confined is due to the adhesive powers of inflamed peritoneal surfaces. In general, circumscribed collections of pus are less dangerous to life than an unconfined suppurative process. Collections in the lower part of the abdomen are less serious than those in the upper portion.

Abscesses situated at the margins of the cavity afford a better prognosis than those located centrally, and those which abut upon the wall through which discharge may be effected, than those which lie between loops of bowel, folds of mesentery, or in recesses behind the viscera.

Wherever it be, however, a definite collection of pus within the abdomen requires surgical aid, except in the rarest instances. "Ubi pus ibi evacuo" is as true to-day as it was when it was coined in the days before the pathogenesis of pus was understood. The practical problems, therefore, resolve themselves into two, namely, the time of attack, and the method of approach.

The chief sites of circumscribed pus are: in the lower abdomen, the right iliac fossa and the pelvis; in the upper abdomen, the right lobe of the liver, in the so-called subhepatic space, and in the peripyloric region, both anteriorly, in the general peritoneal cavity and posteriorly, in the lesser sac. These sites correspond in general to the great sources of intra-peritoneal infection, the appendix, the internal genitalia of the female, the gall-bladder, and the pyloric region of the alimentary tract. Usually, therefore, the location of an abscess points to its origin.

There is, however, considerable variability from the type of abscess derived from each of these sources; secondary collections may form elsewhere, and less frequent conditions, such as diverticulitis, perforation of benign or malignant ulcers of the intestine, suppurating mesenteric glands, acute pancreatitis, and a host of other conditions may on occasion give rise to abscess formation, so that no region of the abdomen is entirely immune.

An appendiceal abscess should be attacked as soon as its presence is determined, providing the patient's condition warrants any operative risk. The form which is most amenable to treatment is that which lies external to the cæcum in the flank. A simple incision into the abscess will evacuate the pus and provide free drainage. The cavity should not be irrigated, nor should the wall be roughly wiped free of pus. Nature has already thrown about the cavity a protective wall of embryonic connective tissue which will do its own work of cleansing, and will secrete antibacterial serum for the extermination of the micro-organisms, while granulation will start at once when pressure is relieved. Let the delicate granulations alone. A cautious search for the appendix may be made, and if it be found in the wall of the abscess cavity it is proper to remove it. In my opinion it

is inadvisable to insist upon finding the appendix, if, thereby, it is necessary to do extensive damage to the confining adhesions or to open the looser post-peritoneal tissues. Recurrence will occasionally happen when the appendix is not removed, but in my opinion the immediate indication is the urgent one,—and that indication assuredly is to get the patient well from his present attack, accepting no unnecessary chances. Nature has already excluded the appendix and it is no time to do preventive surgery in the presence of infection and toxæmia. Loose gauze packing is advantageous so that drainage may occur. Care should be taken not to obstruct the free drainage with tightly packed and sodden gauze, misnamed drainage. This is the course which has given me the best results, where the incision may be made through the parietes directly into the abscess.

Where the abscess does not abut in this manner upon the accessible abdominal wall, as in collections beneath the mesentery, between coils of intestine, below the liver, or retrocecal, it is necessary to open freely into the abdominal cavity. Then, cautiously exploring the limits of the abscess, gauze pads should be packed about it to push the unaffected bowel away and to protect it from soiling. The abscess may then be opened and the pus aspirated or gently mopped away.

In such a case I make a special effort to locate and remove the source of infection. Nature had excluded it from the general cavity, but we have annulled her work and placed it once more in communication. We must therefore, if possible, provide against a recrudescence under conditions once more favorable to generalization. Having accomplished this much we must provide a tract for the discharge of necrotic and infectious material from the site of the abscess and the isolation of that tract from the general cavity. This we do by tubular drainage of rubber or glass, or other material, if the abscess cavity be distant from the surface where discharge is to take place, as in pelvic abscess or abscess located below the liver, or in the enteronic area. It may be advisable to bring such drains out through a stab in the loin or suprapubic portion. Isolation of the tract we effect by making use of the power of gauze to excite adhesions. Some soiling of clean peritoneal surface must occur in such maneuvers. But the peritoneum is no longer regarded as it once was, as the most vulnerable structure of the body. It is the good friend of both surgeon and patient, and with the aid of the immune forces

of the body already rallied against the infection, it can take care of itself, providing the original focus is not able to direct an attack against it. We do not presume, however, on this defensive power of the peritoneum, but aim to soil as little clean surface as possible.

Like loin abscesses, collections of pus in the pelvis, may at times be advantageously opened extraperitoneally by way of the vagina. These abscesses arise usually from tubal disease. When acute or subacute if we have reason to believe that the pus contained is still infective, this is a safer procedure than to attack the collection from above. This is distinctly a palliative operation and will usually require abdominal section at a later date. Therefore, when the process is of considerable duration and we have reason to believe that the pus is sterile or of low virulence, it is best to make a laparotomy in order to attend at the same time to such organs as are diseased beyond hope of repair.

Subdiaphragmatic abscess affords special difficulties both of recognition and treatment. In view of Dr. Jopson's more extended paper upon this subject to-night it is unnecessary for me to do more than mention it.

Abscesses in the pyloric region, if in the great sac, must be attacked anteriorly and our drainage arranged so as to give the most efficient and direct outlet, at the same time disturbing normal relations as little as possible. In the disposal of all drainage we must give consideration to the position of the intestines, avoiding such tortuous paths as will conduce to kinks and secondary obstruction. We should also, whenever possible, make use of the force of gravity to carry off the secretions,—in other words, secure dependent drainage. This is often impossible, and we must be content with relieving tension and providing a free outlet; by far the most important indications.

Owing to the difficulty of localization before incision, it will sometimes happen that after opening the abdomen we will find our collection within the lesser sac. In such cases it is usually wise to close the anterior wound and make our avenue of discharge through the flank. This holds true also for peripancreatic suppuration due to suppurative or gangrenous pancreatitis.

In these cases the pus is really post-peritoneal, though it may simulate, by its forward bulging, an intraperitoneal tumor or abscess. I have several times encountered the condition, and have had no cause to regret my choice of posterior drainage, though

it involved another incision. In one remarkable case, about a year ago, the entire body and tail of the pancreas, completely gangrenous, was spontaneously discharged twelve days after operation, and the patient made a good recovery.

By slight appropriate variations of these principles any abscess in the abdominal cavity may be attacked with good hope for success. In certain cases one will find more or less reparative surgery indicated. A perforating ulcer must be closed, or peritonitis resected. Malignant masses may require removal. These possibilities are too numerous to be foretold or here discussed. The largest measure of interest attaches to those cases in which the pus is not confined, but exists free within the abdominal cavity. At the outset of infection there is practically always some free pus formation in the immediate vicinity. This is a defensive process of Nature. To fulfill its purpose in an ideal manner, it must speedily accomplish the destruction of invading micro-organisms and again undergo absorption. This frequently occurs. How often we are met with a thin turbid fluid, seropus, when we open the peritoneum in search of an inflammatory condition! A culture may, or may not, be positive for micro-organisms. If not, it was formerly explained on the grounds of a chemical peritonitis, but we now know that failure to find organisms indicates that they have been destroyed, absorbed, or entangled in the fibrinous mesh upon the surface of the intestines.

If the infecting organisms be of high virulence, or in too great dosage, whether by sudden escape of large quantities of infective material or by reason of a slower but continuous outpouring of renewed infection, or if the bodily resistance be inadequate, the defense is overpowered, exudation continues, the slain and useless phagocytes accumulate, the fluid deprived of its antitoxic and antibacterial properties, becomes at once a culture medium for their multiplication and a means for their transference to fresh fields. The powerful toxic emanations of the bacteria held in solution in the liquor puris make it a poisonous foreign material, locally injurious and, by absorption, dangerous to the delicate parenchyma of the essential organs. Thus we are "hoist with our own petard."

Of all single factors which influence the outcome of such a case that of time is the most important. It is true that there are cases of infection of the peritoneum which at the present time seem to be uninfluenced by surgical treatment at any stage.

These are usually due to the streptococcus and cause little pus formation but an intense inflammation and paralysis of the intestines with rapid fatal toxæmia. No known surgical measures seem to change materially the course of such an infection. Thus Barker in the last Address in Surgery before the British Medical Association was led to remark: "When we speak now of peritonitis we are conscious that we are using a term which includes conditions as widely apart as an ordinary attack of eczema and a desperate cutaneous, streptococcal erysipelas." In these cases I doubt whether the mechanical aids of surgery will ever be sufficient to avert a fatality, and I took for help rather to some method of inducing active or passive immunity to the micro-organism.

Fortunately these extreme cases are comparatively rare. The vast majority will yield promptly to operative treatment provided it be done sufficiently early. In my experience the prognosis of peritonitis depends not so much upon the type of infection as upon the duration of the disease before treatment is instituted. Late peritonitis is quite a different disease from early peritonitis. I may illustrate this from my own experience by a series of cases which I have had compiled recently. In 70 consecutive cases of diffuse peritonitis secondary to perforative or gangrenous appendicitis, or ruptured gastric or duodenal ulcer, which were operated upon within forty hours after onset, there was but one death, a mortality of 1.4 per cent. Of 99 cases operated within the first fifty hours, three died, a mortality of 3 per cent. This gives an idea of the rapidity with which the mortality mounts as a result of delay in this class of cases. As a further illustration I may say that in the last consecutive 55 cases which I have found suffering with generalizing or generalized peritonitis, there have been 11 deaths, a mortality of 20 per cent. A number of these cases were in extremis when admitted, and I confess that I know of no way to save the neglected cases. I resent the fact that these deaths are charged to surgery when the blame really rests upon the cause of delay, whether that be due to circumstances, to the patient himself or, as in too many instances, to bad advice.

While we are busied with improvements in technic, therefore, let us not forget to sound the note against delay, the most important single cause of mortality.

As a corollary to the importance of early operation is the fact that the most important single object of operative intervention

is the treatment of the focus of infection itself. Appropriate treatment of this source will often be sufficient in itself to allow nature to complete the cure. There are, however, many subordinate aids in treatment which are of great value, among which I would mention the importance of quiet, the Fowler position, light careful anaesthesia, quick, skilful operation, saline infusion hypodermically, intravenously and particularly by way of the rectum as introduced by Murphy, and careful after treatment, usually consisting in a "masterly inactivity." The scope of this paper, however, precludes more than passing mention of all these and necessitates close adherence to the subject.

What is to be our attitude towards the pus already present within the abdominal cavity? It is but a few years since the peritoneum was considered one of the most vulnerable tissues of the body. Surgeons were horrified at the discovery of pus within the abdomen, and with little faith in nature they devised methods of treatment consonant with their belief that the recovery of the patient was possible only through their ingenuity in getting rid of the pus. So we find that patients had their bellies washed out with antiseptic solutions, the intestines vigorously scrubbed with gauze, and some surgeons, more ingenious than clear sighted, devised means for constant irrigation of the abdominal cavity. These measures were supplemented by cumbrous methods of drainage both with gauze and tubes. These attempts at plumbing not only failed signally to perform the function for which they were devised, but gave rise to complications due to their presence. On the other hand it was observed that the peritoneum of itself possessed wonderful resisting and recuperative powers. More and more was entrusted to nature and even to-day we have not found the limit. I am certain that I drain less and less every year. Where I once said, "When in doubt, drain." I do not hesitate to close up any case which shows only a small amount of seropurulent fluid within the abdomen. Often the culture from such an exudate will be sterile, indicating that the infection is already overpowered. But even when microorganisms are demonstrated it makes no apparent difference in the case of recovery.

Thick, vicious-looking pus in considerable amount, especially if it be foul smelling, is in my mind still an indication for drainage. I waver somewhat even in certain of these cases, and I have closed a few of them without ill effect. I believe that we will find it unnecessary to drain many of these cases if the source of infec-

tion can be rendered innocuous. I believe this to be true both because of the clinical evidence of having seen such cases get well without drainage and because I am skeptical of the degree of general drainage of the abdominal cavity that may be obtained by practical methods. I have pointed out that the earlier attempts at extensive sewage systems resulted in failure. Now when we limit the amount of drainage we get hardly more than a local effect. It is a fatuous hope to drain the abdominal cavity by introducing a tube into the pelvis, or indeed into any other region of the abdomen. In my opinion we are still much misled by the idea of drainage as applied to the abdominal cavity. Any foreign body within the peritoneum speedily excites adhesions which cut it off from the general cavity. Especially is this true when the peritoneal surfaces are already inflamed. The function of any sort of drainage placed among the intestines rapidly becomes purely local. For a few hours it may serve to a limited extent as a general avenue of discharge, but this soon ceases and the discharge becomes usually thin and watery, being nothing more than an exudation from the walls of the drainage tract. I have not infrequently seen such drainage from a tube when there was a large amount of unconfined pus in other areas of the abdomen. This fact also has a bearing upon the ideas in regard to the relief of tension, almost a cant phrase nowadays. In desperate cases it is not so uncommon to find a high degree of tension with accumulation of pus in spite of tubes introduced within the abdomen. Thus, when the surgeon is cajoling himself with such ideas of scientific assistance he may be doing very little to affect the result. These facts confirm me in my belief in little drainage, skilfully placed and quickly removed, as its effect becomes local rather than general.

Another misleading term is drainage as applied to gauze, the true use of which is to isolate necrotic areas or dangerous foci of infection from the general cavity and establish a tract opening upon the outer world. When used as drainage it more often defeats its purpose than it accomplishes it. Sodden, pus-soaked gauze is an obstacle to the flow of secretion instead of a conductor. As I remarked long ago, a cigarette drain is an excellent thing when there is nothing to drain.

In the treatment of free pus within the abdominal cavity, then, we are obliged to rely very largely upon the powers of the peritoneum to care for itself. We may aid by the evacuation of

an excess of pus at the time of operation, and by means of drainage we may secure a sustained effect for some hours. This is undoubtedly very important for many cases and should be done, but in many others it is not essential, and in those which are benefited we often aid nature but little in the disposal of pus and infection already present.

The advisability of washing away the exudate at the time of operation is, of course, another point to be considered here.

I am aware that free general irrigation, local irrigation, wet sponging, dry sponging, and no irrigation, all have their strong adherents well fortified with opinions and statistics. I feel, however, that any strenuous measures directed towards removal of exudate already present are but an expression of the old tendency to do too much and rely too little on nature. While Blake and some others have reported excellent statistics obtained under the irrigation treatment I am convinced in looking over the statistics reported by many workers that those who do not irrigate get the best results. I have been better satisfied since I abandoned it some years ago. My objections to irrigation in brief are that:

1. It consumes time that we cannot afford to lose.
2. It diffuses infectious material, a serious matter in generalizing peritonitis where there may be extensive areas of peritoneum as yet unaffected.
3. By causing us to manipulate the bowels it has a tendency to promote paresis.
4. My own experience, and I believe the combined experience of operators all over the world, show a higher percentage of cures without irrigation.

I do believe it to be good practice to aspirate any collection of fluids in the pelvis, or elsewhere, that is accessible, or to absorb gently with gauze any highly foul or purulent exudates about the source of infection, but to wash extensively or to go on any extended tour of the abdomen seeking for exudate to clear away, I believe is wrong.

One other suggestion. I have observed in certain desperate cases with large amounts of vicious pus in the cavity that a long incision partially approximated and overlain with gauze to retain the intestines permits a marked escape of exudate and seems to relieve abdominal tension in a far more satisfactory way than a single tube or multiple tubes brought out through an angle of the incision.—*Annals of Surgery*.

Recent Progress in Medical Science.

PERNICIOUS VOMITING OF PREGNANCY.

Adam H. Wright, Toronto, Canada, refers to Dr. Whitridge Williams' demonstration of the nature of the disturbances of pregnancy which cause toxemia and pernicious vomiting. Chemical examination of the urine in such cases shows a decrease in the amount of nitrogen excreted as urea and an increase in the amount excreted as ammonia. Wright reports a case in which the ammonia coefficient rose to 14 per cent., though Williams has expressed the opinion that if the ammonia coefficient rises to 10 per cent. the patient's life is endangered and the pregnancy should be terminated. The treatment instituted by Wright was as follows: It was found that a hypodermic injection of one-quarter of a grain of morphin had no effect, and it was thought that a large dose might quiet those nerve centers, which, like so many specks of dynamite, were causing a vicious circle of explosions within the digestive tract, and especially in the stomach. Consequently one-half grain of morphin was administered hypodermically; and, shortly afterward, calomel was given, one grain every hour for four doses. This treatment produced satisfactory results. The patient had some sleep during the night, and felt fairly well the next morning—better than she had felt for a month before. The nausea returned, however, during the forenoon, and she had a very bad afternoon. It was then decided to give larger doses of morphin. Accordingly one-half grain was administered hypodermically at 9 p. m., one grain of calomel was given by mouth half an hour after, and as the morphin had not produced sleep another quarter grain was administered between 10 and 11 p. m. The patient had a comfortable night, slept well, and felt comfortable and happy the next morning. As the nausea returned each afternoon this treatment was continued for five more nights with such excellent results that on the seventh day from the commencement of this treatment the patient had no nausea or vomiting. During this week she had five grains of morphin administered hypodermically, and eleven grains of calomel by the mouth. Although at this time (October 7) the general condition was vastly improved, the ammonia coefficient was still fairly high—8.2 per cent. After this less morphin was administered at bedtime for five days, after which it was stopped

entirely. Calomel was given occasionally during the remainder of the pregnancy. After November 1, the patient enjoyed excellent health until she reached full term, May 8. In accordance with my custom, during the last five years of inducing labor at term or within two or three days after, labor was induced May 10, when a healthy child was born. At the time of writing (nearly nine months later) mother and child are both well.—*Journal A. M. A.*, May 7, 1910.

DYSTOCIA DUE TO THE CORD.

Berthier (*Gaz. des Hop.*) states that labor may be delayed by the structure of the umbilical cord. It may be so short as to prevent the descent of the fetus. In this case the mother feels a constant pain in the uterus. A marginal insertion of the cord or a low insertion of the placenta may cause dystocia. There may be adhesion of the cord to the placenta or the fetus. When the cord is too short the pains are weak and irregular, labor is long, dilatation poor, and pain severe. Operative interference may be necessary to deliver the patient. If the placenta becomes separated hemorrhage is severe; inversion of the uterus may result from traction on the cord. The cord may even be ruptured during the descent of the fetus. Short cord favors deflexion of the head, and breech or shoulder presentation. Another form of dystocia may be due to the winding of the cord about the body or neck of the fetus. It may cause intra-uterine amputations, or strangling of the fetus. Pressure of the fetus on the cord causes stasis of the circulation or anemia of the bulbs and cerebral centers of the child, and death results. The most important etiological factors are narrowing of the pelvis and low insertion of the placenta. Prolapse of the cord is another complication of labor. It seems to be of little use to replace the cord, if it has become prolapsed, since it cannot be maintained in position except by the use of a balloon, which at the same time hastens dilatation. Labor must be hurried in whatever way is possible. Some authors believe it to be an indication for an immediate Cesarean section, no matter what is the amount of disproportion between the pelvis and the fetus.

FATAL FACTORS IN PNEUMONIA.

G. Werley, of El Paso, Tex., finds the causes of death in pneumonia to be a failure to recognize the importance of a few underlying principles. The patient will recover if placed under the most favorable conditions for nature to cure him. The great needs of the body in pneumonia are plenty of air, water, food, and proper rest. The first factor in unfavorable surroundings is a close room, not supplied with a plenty of cool, fresh air. The second is a failure to aid the kidneys in carrying off the toxins of the disease by giving plenty of fresh water. Overfeeding and wrong feeding are responsible for a loss of energy used up in an attempt to digest, assimilate, and excrete unsuitable foods. Meat broths are not useful because they make no energy and tax the kidneys. Sugar is a valuable energy producing food and leaves nothing but water and carbon dioxide to be eliminated. Eggs and milk are appropriate. Fright and worry are responsible for loss of nervous energy. Failure to keep the patient in a horizontal position so as to aid the heart in carrying on the circulation is responsible for many cases of death. Drugs are only necessary to aid the heart, and obtain perfect rest. There is no serious infectious disease against which the body has better natural means of defense than pneumonia. If given a good fighting chance a complete cure in five to ten days is the rule.—*Medical Record*.

ABUSE OF HYPODERMIC MEDICATION DURING OPERATION.

H. G. Wetherill, Denver, (*Journal A. M. A.* May 7), condemns the practice of hypodermic stimulation during and after operations, and states that anesthetists and surgeons who have had the largest experience seldom use it. The best results and the lowest mortality of the busiest surgeons of to-day are attained by the simplest methods. Careful diagnosis and accurate estimates of the ability of the patient to undergo the operation are made. He is prepared with care, the anesthetic is wisely chosen and skilfully given, he is operated on without avoidable exposure, delays, or hemorrhage, he is returned to a warm bed,

placed in a favorable position, watched by a competent nurse and let alone. If he is very restless and really suffering from shock or severe pain as he emerges from the anesthetic he may be given a moderate dose of morphin and atropin but, notwithstanding its stimulating and soothing effect, he is ordinarily better off if it can be omitted. No strychnin, no spartein, no digitalin, no nitroglycerin—no whip and spur for a tired and jaded and played out or overworked heart, if such he has—no piling up of new poisons to impose additional burdens on the organs of elimination. Let him alone. Keep him warm and very quiet. Give him all the water he can absorb by the avenue of choice; mouth, rectum, under the skin, or within the peritoneal cavity, and as few drugs as possible.

TREATMENT OF PUERPERAL CONVULSIONS.

Little (*Jour. Obst. Gyn. Brit. Emp.*), has evolved the following general rules for treatment: Minimize the use of narcotics and anesthetics. Chloroform is rarely indicated for the control of convulsions, but should be used when general anesthesia is required for examination or delivery. Immediate delivery is advisable, particularly when the child is viable. In the majority of cases the onset of labor is more or less intimately associated with the onset of convulsions; accouchement force—preferably Harris' method followed by version—has given the best results. Immediately after delivery, if not before, the stomach should be washed out, and several ounces of magnesium sulphate, well diluted with warm water, should be introduced through the tube. The patient should then be sweated by means of a hot air bath or hot pack. If convulsions recur after delivery, and particularly in post-partum eclampsia, the best results are obtained by withdrawing 700 to 900 c.c. of blood from one of the veins of the forearm. A large quantity of fluid (forced fluids) should be given for several days, and the amounts so given should be carefully tabulated for comparison with the amount of fluid eliminated in the urine and stools. If the excretion is inadequate, repeat the sweating and purgation. Do not allow the patient to become water-logged. Careful records of ingestion and excretion should be kept for at least ten days, as the involution of the uterus has a marked effect on the general metabolism, particularly between the sixth and ninth days.

Surgical Suggestions.

Subacute osteomyelitis at the mid-shaft of the tibia is often post-typhoidal.

Passing a catheter often cures post-operative abdominal pain not relieved by other means.

Surgery is meddlesome therapy in the vast majority of cases of acute hemorrhage from gastric ulcer.

“Sexual neurasthenia” in the male not infrequently depends on disease in the posterior urethra.

Loud buzzing in one ear should make one suspect arteriovenous aneurism at once.

Perforation may be the first serious sign of carcinoma of the pylorus as well as of ulcer.

There is often a “clear interval” after a stab wound of the heart, similar to that following laceration of the middle meningeal artery.

To the present, the best results in the treatment of injuries of the lungs have been obtained by conservative therapy.

In most exploratory laparotomies the seat of disease may be discovered by tracing the attachment of an adherent portion of omentum.

Glycerine dressings covered by rubber tissue, are frequently more useful than the ordinary wet dressings in reducing inflammatory swelling and in relieving pain.

INTRACRANIAL TUMOR.—Increasing deafness and blindness should suggest an intracranial tumor, especially if facial palsy be present. The commonest situation is in the cerebellopontine angle.—*American Journal of Surgery.*

Therapeutic Suggestions.

TO REMOVE A NÆVUS.—It is recommended for the removal of a nævus to make a solution of corrosive sublimate in collodion of the following proportions and apply according to directions:

R

Corrosive sublimate gr xxx;

Collodion, ounce i.

M.

Sig.: Apply as a paint to the fully exposed nævus and its edges with a camel's hair pencil; fan the part briskly to induce evaporation, and when the varnish is formed, apply two or three more applications in the same way. Cover with aseptic cotton and keep covered for two days, when the varnish is lifted off, and a fresh application made, which is taken away on the third day. As a rule, under this treatment a brown scar is formed, under which is a delicate cicatrix or a small ulcer, which cicatrises rapidly.

SORE NIPPLES.—Among the numerous remedies recommended for sore nipples the compound tincture of benzoin is probably one of the best, as a local application.—*The Southern Clinic*.

Sulphide of calcium is the remedy where the eyes are painful in a bright light; where there are pimples on the face and styes on the lids. It is also of value in ulceration of the cornea.—*Ex.*

TO REMOVE WARTS.—

R

Sulphur drachms x

Glycerin drachms xxv

Glacial acetic acid drachms v

M. Sig.: Apply to the wart daily, shake before using.

J. A. Burnett, M.D.

FOR NAUSEA.

We have found the following very good for nausea and vomiting where a gastric sedative effect is desired: Orthoform, five grains; oxalate of cerium, five grains; cocain hydrochlorid, one-sixth of one grain, every twenty minutes until relieved.—*Therapeutic Medicine*.

SOME PRACTICAL "DONT'S."

Don't draw sutures too tight; so-called infection results from stangulated circulation.

Don't try to get a full-grown placenta with a curette; use your hand.

Don't irrigate unless indicated by odor; then do it frequently under low pressure.

Don't forget to be clean with your pus cases.

Don't go blind on indications; get at the cause.

Don't operate on infections; use wet dressings, and constant irrigation; if pus is inevitable, open and drain.

Don't give too much medicine.

Don't be a therapeutic atheist.

Don't make a snap diagnosis.

Don't grope in a belly full of pus; wash out carefully, drain with gauze; your patient may live.

Don't forget that protracted temperature during convalescence may be due to tissue starvation; feed your patient.

Don't dress tibial ulcers too often; put them at rest with adhesive strips and let nature do the rest.

Don't forget to free an infant's prepuce; it may be the cause of much trouble.

—*Dr. M. Morrel, in Ellingwood's Therapeutist.*

JUSTIFIABLE ABORTION.

It is common for some physicians to try to make themselves believe that they are justified in producing an abortion because of some minor condition or some condition of environment or of circumstance with which the patient has to contend.

A German writer claims that only two or three conditions justifies interruption of pregnancy. One is uncontrollable vomiting, the other is tuberculosis, and the last is a condition of deformity which would interfere with natural expulsion. But with many, this last is no longer considered justifiable, because the Cesarean operation had been so greatly simplified, and the mortality when skillfully performed, is so very low that it is counted as a justifiable and dependable procedure.—*Ellingwood's Therapeutist.*

News Items.

The American Medical Association meets in St. Louis, June 7 to 10.

In the damage suit of Miss Laura Crews vs. Dr. Benjamin F. Van Meter, of Lexington, a verdict was returned May 10th, finding for the plaintiff in the sum of \$4,000. The plaintiff sued to recover \$25,000 damages, alleged to have been suffered by her because of a surgical operation which she claimed was performed on her without her consent.

Dr. E. O. Witherspoon has filed suit against Drs. Lewis S. McMurty, Frank C. Wilson, S. G. Dabney, John E. Hays, H. H. Grant, P. Richard Taylor, P. F. Barbour, Edward Speidel and George A. Hendon, doing business as the Hospital College of Medicine, for \$2,700. It is alleged that the plaintiff entered into a contract in 1907 with the college, paid \$3,000 for an interest and agreed to teach for \$300 a year, and that \$300 is all he received.

THE EAGLE VALLEY MEDICAL SOCIETY--met at Sanders, Ky., May 26th, and effected a permanent organization. The society now includes the counties of Henry, Owen, Carrol and Gallatin, and expects to include two or three more counties. Meetings are to be held at Sanders, or elsewhere if so voted, in March, May, August and October, avoiding the winter months.

Among those present at the meeting were Dr. D. M. Holmes, of Carralton, who was elected president; Dr. J. W. Batts, of Owenton, who was chosen secretary; Drs. C. H. Duvall, Warsaw; J. M. Stallard and J. B. Grant, Sparta; W. B. Messink, and W. S. Golden, Worthville; F. M. Gaines and A. Donaldson, Carrolton; Geo. Purdy, New Liberty; R. M. Williams, Sanders, and Drs. W. F. Baggers, Irwin Abell and A. O. Pfingst, of Louisville. Papers were read by Drs. Gaines, Purdy and Boggress. An unfortunate accident befell Dr. T. G. Connell, of New Liberty, who, while preparing to leave for this meeting was kicked by his horse resulting in a fracture of the lower end of his left fibula and a dislocation of the astragalus. He was attended by Drs. Batts and Purdy.

The Executive Committee of the Kentucky Osteopathic Association met May 10, at the Coke Building, and selected three names of osteopaths to be submitted to Gov. Willson, in order that he may appoint one of the more prominent osteopaths of the State as a member of the State Board of Health.

The names of Drs. Benjamin S. Adsit, of Louisville; O. T. Robertson, of Cynthiana, and E. O. Vance, of Lexington, have been forwarded.

The Paducah Association for the Study and Cure and Prevention of Tuberculosis has been incorporated without capital stock by H. C. Rhodes, R. Rudy, Dr. Harry P. Sights and A. R. Myers.

The Kentucky Association for the Study and Prevention of Tuberculosis has engaged as field secretary Eugene Kerner of New York City. His duty will be to gather information with regard to the tuberculosis situation in Kentucky, to prepare a State tuberculosis exhibit, and to organize local anti-tuberculosis associations wherever possible.

Dr. C. L. Nullau, formerly of this city and recently of St. Louis, has returned to locate in Louisville.

Dr. and Mrs. Bernard Asman, have returned from a two weeks visit in Hot Springs, Ark.

Dr. E. T. Bruce and family, have returned after several weeks stay at Philadelphia and Atlantic City.

Dr. Ray Bryan, formerly of Louisville, has been ordered home from the Philippines, to be stationed at Jefferson Barracks, and was ordered into Washington to take his examination for captaincy in the United States Army.

Drs. J. Rowan Morrison, Lewis S. McMurty and David Morton, have returned from Washington, where they attended the Congress of American Physicians and Surgeons.

Dr. W. Hamilton Long, has returned from a two weeks visit in Indianapolis.

Dr. and Mrs. Samuel E. Woody on May 9 celebrated their silver wedding anniversary.

Dr. and Mrs. Leon L. Solomon have returned after a month's sojourn in the South.

Dr. Virgil E. Simpson has returned from Washington, where he attended the decennial convention for the revision of the U. S. Pharmacopeia.

Dr. Herbert Bronner was elected President of the Young Men's Hebrew Association. With him were elected Drs. Seigel Frankel, Frank Fleischaker and Samuel Steinberg, on the Board of Directors.

Dr. C. H. Harris has returned from his two weeks trip in Florida.

Dr. J. W. Irwin has returned from several weeks stay at Atlantic City.

Dr. A. M. Foster attended the National Tuberculosis Association in Washington, where he presented a paper advocating the colonization of consumptives in the South-west.

Dr. J. A. Flexner is back from New York and other Eastern cities.

Dr. William Cheatham has been touring the Bluegrass in his machine.

Dr. F. A. Boyd, of Paducah, was shot in the arm by Dr Charles E. Purell in an altercation.

Dr. Harcourt of Lebanon, was the guest of his sister in Pewee Valley.

Dr. and Mrs. T. E. Tichenor, of Taylorsville, are visiting in Mt. Washington.

Dr. John W. Pendley, of Paducah, county physician of McCracken, was stricken with cerebral hemorrhage while attending his sister at Spencer, S. D.

Dr. and Mrs. Threlkeld, of Louisville, were the guests of Mr. and Mrs. Almer Barnes, in Mt. Washington.

Dr. J. Thomas Wallingford has been elected health officer and Dr. Hugo W. Aufenwasser, a member of the board of health of Covington.

Dr. and Mrs. N. W. Moore, of Cynthiana, have gone to Martinsville, Ind.

Dr. and Mrs. William Sage, have returned to Mt. Washington, from their bridal tour.

Dr. Eugene C. Roemele, of Frankfort, has started for Germany.

Dr. L. F. Heath and family, of Newport, have been spending the week in Owenton.

Dr. S. Scott Prather and wife, are visiting relatives in Anchorage.

Dr. G. Robert Gowen and wife, have returned from their bridal trip and are now visiting in Central City.

Dr. George W. Armes, of Leitchfield, has succeeded Dr. Daniel J. Healey, as superintendent of the Intsitute for the Feeble-Minded, Frankfort.

Dr. Herbert Caldwell, has returned to Pewee Valley, after spending the winter at Naples, Fla.

Dr. F. L. Lightfoot, wife and daughter, of Cloverport, Ky., were in Louisville on a visit.

Dr. James O. Carson, of Bowling Green, is reported ill in the St. Joseph Infirmary of that city.

Dr. William F. Gardner, Dycusburg, was seriously injured in the machinery in an accident in a motor boat. He was taken to Riverside Hospital, Paducah.

Dr. S. W. Combs, of Bowling Green, was in Louisville on his way home from Chicago.

Dr. Thomas Shaver, of Lexington, is visiting friends in Anchorage.

Dr. J. S. Ward, of Jeffersonville, has gone to Quincy, Ind., to remain several weeks. He is recovering from an attack of appendicitis.

Dr. L. Bennett and wife, of Central City, are visiting in Hopkinsville.

Dr. C. B. Eddy has returned from Richmond, Va., and is visiting Mr. and Mrs. G. B. Davis, in Pewee Valley.

Dr. John Loomis, of Jeffersonville, celebrated his ninetieth birthday anniversary May 18.

Dr. Henry Fouchee, of Lexington, is in Louisville, spending several weeks.

Dr. Al Price and wife, of Lancaster, are the guests of Dr. S. P. Grant and wife, at Danville.

Dr. W. S. Forword and wife, of Henderson, are visiting in Baltimore.

Dr. J. D. Howell with his family, left for Berthond, Col., where he will reside in the future.

Dr. S. L. Van Anstine, has moved to Louisville from Oklahoma, and opened his office in the Highlands.

MARRIAGES.

Dr. William H. Willis to Miss Drusie Sledd, of Mt. Sterling, Ky., May 11.

Dr. Matthew C. Darnell, of Duckers, Ky., to Miss Ermine Jett, of Frankfort, Ky., at Grassy Springs Church, April 27.

DEATHS.

Dr. Richard E. Garnett, secretary of the Glasgow Board of Health, died at his home in Glasgow, Ky., May 2, from heart disease, aged 54 years.

Dr. Marshall P. Robinson, pension examining surgeon, died at the home of his sister in Lexington, Ky., May 6, from Nephritis, aged 63 years.

Dr. James W. Long, died at his home in Madisonville, Ky., April 26, from senile debility, aged 74 years.

Dr. Joel T. Bell, died at the home of his daughter in Guthrie, Ky., March 30, from pneumonia, following influenza, aged 78 years.

Dr. Samuel H. Thomas, of Spencer, Ky., died at the home of Dr. Martin Faulkner, in that place, April 21, from nephritis, aged 37 years.

Dr. C. H. O. Young, died in Flippin, Ky., April 22, aged 64 years.

ACKNOWLEDGMENTS.

CONGENITAL DISLOCATION OF THE HIP JOINT, by J. Jackson Clarke, M.B., London, F. R. C. S., senior surgeon to the Hampstead and North-west London Hospital, and surgeon to the Royal National Orthopœdic Hospital. Cloth, pages 92, illustrations, 55. Bailliere, Tindall and Cox, London. Paul B. Hoeber, New York, American Agents.

DIGNOSIS OF DUODENAL ULCER, WITH SPECIAL REFERENCE TO THE VALUE OF COMMIDGE'S PANCREATIC REACTION, by George Herschell, M.D., London.

PATHOLOGIC VARIATIONS AND COMPLICATIONS OF APPENDICITIS, by Charles H. Goodrich, M.D., Brooklyn, N. Y.

FACIAL TONSILS HYPERTROPHIED AND OTHERWISE, by Charles E. Seefield, M.D.

TWENTIETH ANNUAL REPORT OF ST. MARY'S HOSPITAL, Rochester, Minnesota, for the year 1909.

A STUDY OF THE ANATOMY OF WATSONIUS (n. g.) WATSONI OF MAN AND OF NINETEEN ALLIED SPECIES OF MAMMALIAN TREMATODE WORMS OF THE SUPER FAMILY PARAMPHISTOMOIDEA, by Ch. Wardell Stiles and Joseph Goldberger. Paper. pages 264. Illustrations 205. Washington Government Printing office, 1910.

FOR CHECKING THE LACTEAL SECRETION.

Twenty grains of acetate of potassium, in water, three times a day, will check the secretion of the lactating breast more effectively than anything else, according to recent studies at the Johns Hopkins Hospital. The method was introduced by Lewis, of Westerly, Rhode Island. Codein may be combined with it to control pain. When it is used it is not necessary to employ a binder, a pump, or applications of any kind to the breast. With this treatment they have had no abscesses at the Baltimore hospital since 1904. Lewis has used it for twenty years with similar results.—*Therapeutic Medicine*.

DIRECTORY OF LOUISVILLE MEDICAL SOCIETIES.

(FOR JUNE.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton,"
June 6, 13, 20 and 27.

DR. E. S. ALLEN	<i>President</i>
DR. S. D. WETHERBY	} <i>Vice Presidents</i>
DR. M. F. COOMBS	
DR. CURRAN POPE	<i>Treasurer</i>
DR. DUNNING S. WILSON	<i>Secretary</i>

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, June 7
and 21.

DR. JOSEPH W. IRWIN	<i>President</i>
DR. ARGUS D. WILLMOTH	<i>Treasurer</i>
DR. H. J. FARBACH	<i>Secretary</i>

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House,
June 2.

DR. J. D. HAMILTON	<i>President</i>
DR. R. A. BATE	<i>Vice President</i>
DR. RICHARD T. YOE	<i>Treasurer</i>
DR. W. O. GREEN	<i>Secretary</i>

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the
Tavern Club, June 16.

DR. L. P. SPEARS	<i>President</i>
DR. CHAS. W. HIBBITT	<i>Treasurer</i>
DR. EDWIN T. BRUCE	<i>Secretary</i>

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, June 3
and 17.

DR. J. GARLAND SHERRILL	<i>President</i>
DR. J. ROWAN MORRISON	<i>Vice President</i>
DR. FRANK C. SIMPSON ...	<i>Secretary and Trcasurer</i>

WEST END MEDICAL SOCIETY; meets at the Old Inn, June 14.

DR. I. A. ARNOLD	<i>President</i>
DR. H. L. READ	<i>Vice President</i>
DR. JOHN K. FREEMAN ...	<i>Secretary and Trcasurer</i>

CENTRAL KENTUCKY MEDICAL SOCIETY; meets at Lancaster, Ky.,
July 21, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets at Elizabethtown, Ky.,
August 11, 1910.

EAGLE VALLEY MEDICAL SOCIETY; meets at Sanders, Ky., August
17, 1910.

KENTUCKY STATE MEDICAL ASSOCIATION; meets at Lexington,
Ky. Date not determined.

AMERICAN MEDICAL ASSOCIATION; meets at St. Louis, Mo., June
7-10, 1910.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript.

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., JULY, 1910.

NO. 7.

Editorials.

THE MAKING OF A PRACTITIONER.

Done with "the demoralizing system of cramming" for school examinations that have tested the ephemeral memory and not the sense or judgment, thousands of medical graduates are going out into the highways and byways of life to practice on trusting, long-suffering humanity.

We wish them godspeed, but while they still buoyantly treasure their hard-earned diplomas it is well for them to know that past examinations have not evoked the true qualifications to minister to the ills of man.

Their memories lumbered with undigested details, they are just entering the school of experience, where by close scientific observation the real practical knowledge, that makes the "sure enough" doctor, is acquired,—

where the true student by the practical application will begin to digest his "school learning."

The present impractical system of examinations was illustrated long ago by Epictetus:—"As if sheep, after they have been feeding, should present their shepherds with the *very grass itself which they had cropped and swallowed, to show how much they had eaten, instead of converting it into wool and milk.*"

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The local Health Board has completed its first year's work of medical school inspection. Have the results warranted the expense and trouble involved? Unquestionable good has been done, there is no way of estimating how much. It is a work that builds for the future—the child of to-day will be the man of tomorrow. Upon the school child rests the hope and strength of a people, hence the necessity of developing "a sound mind in a sound body"; whatever retards its mental or physical vigor impairs its ultimate efficiency. The relation of physical defects to mental development is recognized by parent and teacher, who note that the doctor has cured Tommy's deafness and stupidity, that glasses have made Johnny a bright pupil, and that the removal of the duellard's adenoids has closed his mouth and opened his mind.

Last year in the public schools of New York City, 250,000 pupils failed of promotion, attributed by Superintendent Maxwell to their physical unfitness, on account of physical defect, to do good school work. Dr. Darlington, the Commissioner of Health says, that medical in-

spection will reduce the number which fail so greatly as to save from the school funds much more than the cost of inspection. (New York City now employs 200 doctors and 200 nurses in this work.)

Although medical inspection has been introduced in Louisville schools within the last year it is not a new movement, it is no longer in the experimental stage; the full system was inaugurated in Brussels in 1874, established in Germany in 1889, adopted in 1894 in Boston, whence it has spread rapidly through the States, and wherever inaugurated the results have justified its continuance.

With the states that have adopted the mandatory law Kentucky has not kept pace and its metropolis has but sluggishly caught the "loose step" of the hindmost, yet it is to be hoped that such a thorough system will be energetically extended over the Commonwealth as will not suffer by comparison. Of course some few will resent the provision as an encroachment upon parental rights just as they did compulsory school attendance and obligatory vaccination, but when it is generally understood that the early detection and exclusion of a contagious case means the protection of every other child, that on recognition of a defect retarding a child's progress in school, the inspector merely informs the parent of its existence, that he merely urges remedial attention, that he gives no treatment and in no way interferes with the prerogatives of the family doctor,—when this is understood the co-operation of every parent and every family physician is assured.

Colonel Roosevelt is not alone in the belief that the preservation of the people's natural resources should begin with the preservation of the people, for it is an economic truism that the healthful prolongation of life is the *summum bonum*.

Original Articles

CANCER OF THE UTERUS.*

BY J. B. LUKINS, M.D.

Louisville, Ky.

In presenting this broad subject it is not my intention to deal exhaustively with every phase of it but rather to stress those points which mostly concern the general practitioner, for, with our present knowledge as to cause and the inadequate means of treatment, we must agree with the surgeon and gynecologist that the greatest responsibility in all cancer cases rests upon the family physician. The charlatan and professional quack has long recognized the inability of the profession to successfully cope with cancer cases and has therefore found it a fruitful field for his nefarious practice only adding to the pain and anguish of the unfortunate victim and accomplishing nothing toward lessening the alarming mortality.

"The darkest chapter in all surgery," as stated by my esteemed professor of gynecology, is yet, after years of research and experimentation, unilluminated by the best efforts of scientists and medical men of renown. In spite of the fact that cases of spontaneous cure are reported, I feel safe in saying that all untreated cases of cancer terminate fatally. Not understanding its cause our methods of treatment are necessarily unsatisfactory. So ungratifying are our ultimate results and efforts at extermination that wealthy philanthropists have seen fit to give of their millions to aid in the cause and only a few days ago President Taft asked Congress for an appropriation of \$50,000 to study its cause and pathology in fishes.

With all this the situation is not improving but growing darker, cancer is on the increase, more people are dying of cancer every year than in the previous year. Without going into statistics, suffice it to say that it is stated on the best of authority that one woman in every

*Read before the West End Medical Society.

eight who reaches the age of thirty-five dies of cancer and that making an estimate for this country based on its prevalence in the British Isles, there are in the United States approximately 80,000 cases of cancer. Kelly states that out of 11,382 gynecological cases admitted to Johns Hopkins Hospital, 412 or 3.06 per cent. were cancer of the cervix. From this and all other records examined it is apparent that the uterus is by far the most frequent seat of primary cancer, beginning usually in the cervix, though in many cases in the body, it is essentially at first a local condition, which, if not removed soon spreads to surrounding glands and adjacent structures by way of the blood and lymph channels.

From observation and our own experience we are fairly familiar with the clinical course of cancer of the uterus and its behavior in the tissues after it has once gained a foothold. A careful review of the literature shows that opinions as to its cause are as widely divergent as ever. In addition to a study of the current literature for the latest opinions as to the cause of cancer I have prepared and submitted to several of the leading surgeons of our own city a list of eight questions dealing with the etiology, the diagnosis and causes of failure of treatment of cancer of the uterus and asking for suggestions as to how the public can be taught something of their duty in aiding in stamping out this dreadful scourge.

Question 1. Have you any reason to believe that cancer is either infectious or contagious? With one exception all the answers to this question were that it is not infectious or contagious but is transplantable or inoculable. One gave an unqualified opinion that it is infectious or contagious, but gave no reasons in support of his belief. There are those who believe with Virchow that carcinoma is an epithelial neoplasm, whole cells are out of their normal position. Roswell Park in a paper read before the International Society of Surgeons in Brussels, in September, 1908, opening a symposium on cancer, expressed the view that cancer was infectious and gave the following clinical reasons in support of his belief: 1. direct transmission as lip to lip, 2. wife to

husband. 3. existence of cancer houses. 4. epidemics. 5. metastases. While this theory is accepted by only a very small per cent. of the profession, yet coming from this source, a man of wide experience and careful study, we can not fail to give it proper credence. At present the majority of observers favor the theory that cancer is inoculable or transplantable and in this way explains the transmission from lip to lip or wife to husband. A vast amount of clinical study and years of laboratory work have failed to reveal the true nature of the cause. Like every debatable question there is evidence for and against very cause assigned. We doubt its contagiousness but at the same time admit the existence of houses or rooms that seem to import the disease to their occupants even as tuberculosis is disseminated. We see it occurring in each succeeding generation of the same family thus rendering the fact of hereditary influence undeniable. Whether directly handed down from parent to child or whether a case of hereditary predisposition, lessened resistance, is still a matter of discussion. Kelly says that an hereditary influence can be traced in from one-fourth to one-third of all cases and mentions the report of Broca of sixteen deaths from cancer in a family of twenty-seven members. I have seen cancer of the stomach in the women of the family of three generations. The evidence seems strong in favor of direct transmission but is inconclusive, while the theory of only an inherited predisposition gains in favor and weight.

Question 2. What is the principal factor in the production of cancer? While the answers to this were somewhat varied all but two mentioned irritation, either long continued or recurrent. One naming irritation also mentioned civilization, presumably holding to the belief that cancer increases proportionately with the manner and style of living. No mention was made of previously inflamed areas which always increases the vulnerability of tissue. No less an authority than Prof. E. E. Montgomery, of Philadelphia, is responsible for the statement that, "in the great majority of cases the predisposition to cancer is acquired through changes in cell structure as the result of prolonged or continued irritation. The

history of the occurrence of cancer in the uterus seems to make this statement justifiable as this disease occurs with the greatest frequency in that portion of the uterus, the cervix, which is most exposed to injury and irritation. Not only is this true but it occurs in greater frequency in women who have given birth to children, or cases in which it is evident the cervix has had the greater opportunity to have been the seat of injury and futile efforts at repair. There are exceptions it is true, in which cancer occurs in the cervix in women undoubtedly chaste, but these instances are so exceptional as to emphasize the rule."

All replied to the third question: "Have you ever seen cancer of the cervix in a women who has not borne a child?", in the affirmative with one exception, but since my question did not include whether or not, of the cases seen in nullipara, there had been any forcible dilatation of the cervix, these answers do not preclude a previous history of trauma. Ninety-eight per cent. of Kelly's cases at Johns Hopkins Hospital had had children and he says that, "the fact that the patient is a nullipara is always strong, presumptive proof against cancer of the cervix uteri." A few cases however, do occur in nullipara with no history of dilatation but these are rare and no one seriously doubts the important part played by constant irritation or trauma. In addition to cervical lacerations and frequent pregnancies, the presence of small myoma or fibroma, displacements, inflammations in or around the uterus are constant sources of danger and should be borne in mind by the general practitioner.

Question 4. At what age in women do you see cancer of the uterus most frequently? In the answers to this practically all agreed that it occurs most frequently between forty and sixty, the greatest extremes being given at twenty-eight and eighty, and occurring a few years earlier in the cervix than in the body. We see it then most frequently about the time of the menopause when degenerative changes are taking place in the uterus, further lessening the resistance of a cervix already disabled by more or less child bearing. Statistics show that it is in the advanced years of the lower animals that can-

cer is most often seen in old horses and cows whose years of usefulness are rapidly declining.

Question 5. What is the earliest important symptom of cancer of the uterus? To this, one answered, "a watery, foul smelling vaginal discharge," another, "a bloody discharge" adding that the physician often discovers cancerous tissue before the patient has noticed any symptom that would arouse a suspicion of its existence. All the others answered either hemorrhage or leucorrhea. It will be noted that by none of these men was pain mentioned as an early symptom, for only in the rarest cases are the subjects of cancer forced to apply to us for the relief of pain before the condition is far advanced and adjacent structures probably involved, then since the first symptoms are insidious, being a vaginal discharge, either irregular menstruation or a foul smelling watery discharge, the responsibility of early detection rests almost entirely upon the family physician. Cancer beginning in the cervix can often be determined from the local signs found upon vaginal examination, a cervix somewhat enlarged and puffy with a tendency to bleed easily, being found before ulceration or any breaking down occurs. If cancer of the body is suspected, a few scrapings from the endometrium should be obtained at the time of examination and examined by a competent microscopist. Cancer, beginning in the cervix, grow more rapidly and sooner involves adjacent structures than it does beginning in the body.

Question 6. What is the most potent cause of failure in the treatment of uterine cancer? Since the profession is now practically united upon the course to pursue at once when cancer of the uterus is diagnosed, that is, early and complete extirpation, the consideration of this question, cause of failure becomes at once timely and most serious. Summed up, the answers to this question indicate that the principal cause of failure in treatment is "Delay." Delay upon the part of the patient to apply for examination, delay of the physician to recognize and advise, delay of the surgeon to operate. To this, two gave the additional cause of "Incomplete operation." Accepting these statements as, in the light of our pres-

ent knowledge, we must do, the responsibility of the family physician for the outcome of uterine cancer, is very great but while he is baffling with the question: can we diagnose in time, the surgeon finds himself confronted with one of equal responsibility. Can we remove all the growth? Taussig's review of 41 cases, abstracted in the Journal American Medical Association, is summed up in these words: "The blame for the late recognition of uterine cancer rests mostly on the woman herself. In about 90 per cent. of the cases she did not at once consult a physician. In about one-third of the cases the carelessness and ignorance of the physician was partly or wholly responsible for the delay." Only about twenty per cent. of his cases were operable.

The seventh question, What suggestions would be of benefit to the general practitioner to aid in the early recognition of these cases, elicited the following replies, "Routine examination of his women clientel between 40 and 60 years," "Examine carefully every woman presenting menstrual irregularities and note tendency to bleed when uterus is touched," "Look upon all such cases as suspicious until otherwise proven by competent microscopist and competent specialist." Repeated examination and the repair of all considerable cervical tears and in all cases of persistent uterine hemorrhage, not yielding to usual local treatment after the cancer age, recommend radical treatment." All the other answers scarcely differed from the above, each emphasizing that every woman presenting herself at or near the menopause with irregular menstruation or increased watery discharge, should be carefully examined and cancer excluded before an opinion is given. One answer contained the statement that, "a doubt in the mind of the physician, consultant and microscopist, fully warrants the radical operation for cancer of the uterus."

My eighth and last question, "How far and in what way should the public be educated as to their duty in this matter, was deemed expedient since it is apparent that the public is ignorant of the beginning signs of cancer and the patient herself to blame for delayed operation, more often than anyone else. In answering this all

agreed that we should warn our patients of the danger of irregular hemorrhage and endeavor in every way to dispel from their minds the common belief that certain symptoms attributable to the change of life are really the signs of beginning cancer, at least warrant a complete examination, but none expressed themselves as to whether or not we would be justified in launching a campaign of public education similar to that conducted by Dr. Winter in Germany. Dr. Winter addressed a series of letters to physicians and had articles for the instruction of the laity published in the daily press. The results in one year were truly remarkable. His percentage of operable cases so increased that in describing the results of his work he said: "It is possible to secure patients for operation regularly within four weeks after the appearance of the first suspicious symptoms, it is well worth the effort."

There is no question but what our greatest opportunity, as well as our greatest duty lies in the direction of teaching our patients that cancer of the uterus is at first a local disease and can and should be removed, that its onset is insidious, pain being a late symptom but metrorrhagia, one for which the family physician should be consulted.

CURABILITY OF CANCER.*

J. T. DUNN, M.D.

Louisville, Ky.

The tremendous number of cancer cases now being operated upon, not only in this city but in all parts of the country, causes one to feel that cancer is on the increase, and that thousands upon tens of thousands of lives are to be yielded up to this terrible malady. I venture the assertion that, if carefully compiled statistics could be consulted, it would be shown that the apparent increase is not out of proportion to the increase of population, and the percentage of those dying of the disease would be shown to be on the decrease. Two factors are at work

*Written for this Journal.

which are slowly but surely emancipating the human race from this dread disease; namely, professional alertness upon the part of those faithful servants—the general practitioners, who go and come through every by-way and highway, alleviating human suffering, and is better qualified to detect incipient malignancy than ever before; and the faithful surgeon, equipped as he is with the modern hospital and years of experience, who operates and turns out a convalescent who is free from stem to stern of malignant disease. As the general practitioner becomes more and more impressed with the curability, he will be more and more impressed with the urgency of early recognition of cancer cases; and as the surgeon gets more and more of these incipient cases, he, too, becomes more and more enthused with the fact already established, that the disease is at first purely local, and only requires early recognition and early action to save the life.

How may this early recognition and early action be most speedily brought about, is the question. Too much cannot be said to the laity along this line, just as we do in speaking of appendicitis. In these cases early operation saves practically all, and the laity know it. They also know that the interval operation is the ideal, and some choose to pass through that stormy week or ten days and finally submit to operation when there is no inflammation nor adhesions. The public can be taught what should be done for cancer, and will demand early operation when they know that their only hope lies in that one act. With this disease there is only one period for surgery to be of any benefit, and that is during its incipency; there is no interval operation, nor a second attack, no "open-and-drain" period. The public should be made acquainted with these facts. A case of appendicitis will say to you: "Doctor, some get well without operation, and I refuse." This cannot be said of any cancer case; on the other hand, these cases tell us that they knew they were hopeless from the beginning, and buried the secret in their own bosoms, awaiting the end. Others tell us that they consulted the family physician at once and he did not recognize the nature of the disease,

or that he treated the matter lightly and failed to put them in touch with the surgeon until it was too late to do a radical operation, and such patients die of recurrent disease of horrible nature. All cases dying are published broadcast and operative procedure is given a black eye; on the other hand, all those who get well refuse to mention the subject to their friends, or allow their surgeon or family physician to exhibit them to his County Society or in any way use their recovery in a beneficial way to their friends. Hence a cured case is rarely if ever heard of by the very people who are afflicted with cancer. It has been shown conclusively by surgeons all over the world that early operation is essential. Look for a moment at statistics of cancer of the breast, and see what early operation and improved technique offers in this particular locality. What is true of breast cancers is practically true of cancers elsewhere.

More has been done in recent years to unite the medical profession in the opinion that all cases of cancer should be removed early, and that the operation should be very radical. Great advance in the technique has been made from the surgical standpoint. Previous to that time, many were in doubt as to the advisability of operative procedure, at least among medical men. We have statistics, as quoted in Sajous' *Analytical Cyclopedic*, Vol. VI., p. 311, giving us some interesting data upon this point:

“The experience of the last two decades, and more especially of the last ten years, has shown, according to statistics collected by Rudolph Matas (*Philadelphia Medical Journal*, September 17, 1898), by more thorough operating the chances of recurrence are greatly diminished. While the results of the older operations give the following percentages of local recurrences—Billroth 85, Czerny 62, Fischer 75, Gussenbauer 64, Volkman 59, and Gross 68—the later operations show much better results—Halsted 22, Watson Cheyne 18, Rotter 14, and Dennis only 5 per cent. of local recurrences within a period of three years. (Jocrss' estimate (1897) based upon a study of 76 cases operated upon by four surgeons,

gives 303 per cent of local recurrences within three years.) Far more important is the actual number of cures obtained by present methods. Here again the statistical evidence is encouraging. Billroth (1876) claimed 4.7 per cent. of cures, Kuster (1881) 21 per cent., Koenig 23, and Bergman 39, while the average of Helferich, Rotter and Watson Cheyne's cases (1896) was 49.5 per cent."

By referring to the report of Rodman, we find that to-day 73 per cent. of his cases are cured at four years, a most excellent showing. It is no wonder that such rapid strides have brought confidence to both surgical and medical men.

Crile shows us, in his report of 91 operated cases, the immense advantage of exercising the essential points considered in this paper, namely, early recognition, early operation, and modern technique. He says:

"For the purpose of clinical study the cases have been tabulated in three groups: The favorable, which includes those in which the breast tissue only was involved; unfavorable, including those in which there was local or regional extension, but not clearly without operative chance; and palliative, which includes those done for the relief of intolerable local conditions without hope of ultimate cure. Of the 91 cases, 87 were classed as favorable, unfavorable or palliative. Of this number, 53 were favorable, 25 unfavorable and 9 palliative. This classification was made on the clinical evidence prior to the operation, entirely independent of the later pathological findings. * * * Of the palliative group none are living; of the unfavorable group, 14 per cent. are living; of the favorable group, 80 per cent. are living without evidence of the disease."

Early recognition, early operation by modern technique, places your patient in a class where 80 per cent. are cured; a little delay places them in a class where only 14 per cent. are cured, and a little longer delay, places them in a class where all die. These figures should inject so much enthusiasm into the family physician that he could not longer refrain

from quoting these figures to every mother and every father of every home into which he is called. Early recognition of malignancy does not mean recognition of the disease by such symptoms as cachexia, emaciation, ulceration, or metastasis; the laity will recognize it then. As Mayo says, "these are symptoms upon which you can hang your hat." What we, as physicians and surgeons should and must do, if we do our duty, is to discover this disease before these symptoms present themselves. This will necessitate a more careful inspection and palpation than we have been accustomed to giving our patients, not only in examining the exterior of the body, but its interior. When we have the slightest intimation of improper action of any organ or its increase in size, or where there is asymmetry, or a tumor, or prolonged pain, let us make a more careful examination than has been our custom. The presence of a tumor in the breast in 80 per cent of cases is cancer, and of the remaining 20 per cent. 50 per cent. become cancerous. One woman in every eight and one man in every seventeen dies of carcinoma after 35 (Mayo); 94 per cent. of Crile's cases begun as a tumor, 67 per cent. of which were without pain, and 33 per cent. were painful. It is interesting to note that in only 6 per cent. of his cases, pain was the initial symptom.

With these facts in mind, let us set about to establish a new era in the management of our cancer cases. The cancer problem should be coupled to the great anti-tuberculosis movement and the two run as a double-header.

THE PROPHYLAXIS OF CRIMINALITY.*

BY A. L. PARSONS, M. D.,

Louisville, Ky.

The object of this paper is to bring to your attention a simple means of combating those anti-social beings, against whom society has long been waging an ineffectual warfare. I refer to the habitual criminal. The weapon alluded to is the power by law to sterilize degenerates,

*Read before the Louisville Society of Physicians and Surgeons.

male and female, when in the opinion of an authorized board of physicians the issue of these degenerates is likely to prove dangerous to society. This method has in view, not our present benefit as much as that of succeeding generations, it is preventive of crime not a punishment of it, is prophylactic rather than curative.

It rests on two basic principles. First, that criminals (I refer always to habitual criminals) are degenerates, and second, that degeneracy has as a most potent causative factor, an hereditary predisposition, or tendency.

The first principle is so universally accepted that it needs little discussion. Criminologists and physicians look upon the confirmed criminal as one diseased, morally depraved. His higher nervous centers are at least functionally absent, his will lacking, his resistance to temptation, that is his inhibitory powers are below par. Dr. Lydston, Prof. of Criminal Anthropology, Chicago, says, "These individuals are degenerates, and the degeneracy that is responsible for their own criminality may undoubtedly be transmitted to their descendants. Any measure that prevents this class of individuals from having descendants is necessarily preventive of crime."

Authorities are likewise united regarding the second principle. No thinking man, least of all, a physician doubts that tendencies are transmitted from parent to child. Traits of character, "family characteristics" etc. come daily under observation. Environment is not sufficient to account for this. Chief among these predispositions is a weakened nervous organism (Adami, in Osler's modern medicine). The nervous equilibrium particularly the higher centers, shows in certain families a distinct tendency to become unbalanced. The progeny of such nervously weak parents are not necessarily similarly affected but their nervous instability may manifest itself in lack of resistance to theft, alcohol and crime.

Quoting Lydston: "Inasmuch as the conditions underlying degeneracy are chiefly hereditary, it is obvious that attention should first be paid to the parentage of the prospective degenerate." DeNietz (Ferri) found that 20 per cent. of every 4000 convicts were the children of convicts. Bois tells us "there is no law of nature more

absolute and unvariable than the law of reproduction, that 'like produced like'; figs cannot be grown from the seed of thistles, grapes from thorns, or honest moral character be engendered by parents diseased with moral depravity."

The relation of alcohol to criminality is important. The confirmed alcoholic is undoubtedly a degenerate, morally depraved, therefore his issue is a social danger. In the N. Y. State Reformatory 38 per cent. of the inmates descended from alcoholic parents (Lambroso). Boies estimates 68 per cent. of criminals are the products of drunkards.

According to Lydston, "inebriety is the most important of all causes of degeneracy and the inebriate * * * * should be prohibited from marriage."

That the insane, feeble minded and idiotic are degenerates, types reverting to the low original, is conceded by all. It is also true that their descendants are often a burden, even a menace to society. Twelve per cent. of those in the New York State Reformatory are the children of the insane or epileptic (Lambroso).

An editorial in the J.A.M.A. quotes Kraepelin, to the effect that, "present day studies prove that fully two-thirds of the petty thieves and tramps are recruited from mental defectives."

As a source of degenerates these individuals are dangerous. Paupers must also be mentioned as they are largely recruited from the ranks of the degenerate and in time transmit the disease. As crime producers, their issue compose 4 per cent. at the above mentioned reformatory (Lambroso).

In his masterly work "Science of Penology," Boies lays down the following law: "The restriction of criminality depends upon the prevention of the disease of moral depravity." "An inherited taint of insanity, drunkenness, idiocy, etc., is liable to produce moral depravity in its offspring." According to Prof. Drahts, criminologists estimate that from 50 per cent. to 75 per cent. of detected cases of criminality are the result of parental causes. Dr. Morel, of the State Insane Asylum at Belgium, quotes Naecke to same effect (50 per cent. to 60

per cent.). Finally Lydston states: "Granting that degeneracy underlies all social diseases and especially criminality, it follows that the most effective means of prophylaxis are those that further the prevention of degeneracy."

The methods now in vogue for the prevention of criminality are notoriously ineffectual. The Scotch Department Commission and the Royal Commission for Penal Servitude worded their reports so as to leave no doubt of this (Ferri). Belfield says murders are now four times as frequent as in 1881. The distinguished German jurist, Professor von Liszt, admitted that our present penal methods were powerless against crime (Lombroso). The reason for this deplorable condition seems to be that we try to prevent crime by its punishment and there we stop. We use no prophylaxis; would we do the same in a typhoid epidemic? "The more familiar one becomes with the details of the attempts of society to secure protection from criminals * * * the more profoundly he is likely to be impressed with their inordinate cost and their intility. Notwithstanding our tremendous expenditure of effort and money, crime continues undiminished. * * * The laws do not protect" (Boies). Society is working at the wrong end, or rather it should work at both ends.

It is impossible to speak of the prevention of criminality by this method without, at least briefly discussing marriage. "Society begins its self-contamination at the marriage license window," says Lydston, but this is only half the truth, for unfortunately many degenerates are born outside the bonds of wedlock. Marriage has been restricted in several States. "Minnesota has a law providing that no woman under the age of forty-five, or a man of any age, except he marry a woman over forty-five years of age, either of whom is epileptic, imbecile, feeble-minded, or afflicted with insanity, shall intermarry or marry any other person within the bounds of the State. Michigan, Delaware, Connecticut, New York, and North Dakota, have passed laws for the purpose of preventing marriage among defectives" (Sharp). Sharp decries these laws, predicting that they will "restrict

procreation only among the more moral and intelligent class while the most undesirable class goes on reproducing its kind, "thus adding illegitimacy to degeneracy." Such restrictions, however, would effect many of these unfortunates who are already in the custody of the State, in almshouses, asylums, etc., and such is not at present the case.

Lydston would govern marriage on the strictly business basis of a Life Insurance Company. Society decreeing it will not allow certain marriages, because of their being "bad risks." Ferri absurdly suggests the intermarriage of the morbid and healthy stock.

The rational method is to go to the real fountain head of degeneracy, which is a good deal farther up stream than the license window. Science has found a way entirely practical, humanitarian in the highest sense and unobjectionable, save on the ground of absurd sentiment (Boies). This is the sterilization of the degenerate.

In the male the technic is simple. Without even local anesthesia, the vas deferens is isolated in the scrotum, delivered through a short incision, ligated and severed on the testicular side of the ligature. Pain is minimal and not an hours time is lost to the subject. (Sharp reports many cases where this is true). In the female, while more serious, the operation is none the less simple, —ligation of the tubes. Dr. Sharp of the Indiana Reformatory, to whom I am indebted for many courtesies, says: "After vasectomy in 42 cases, I am prepared to speak favorably of the operation. * * * The subjects improve mentally and physically, increase in flesh, feel stronger, sleep better, memory improves and the will becomes stronger (J. A. M. A., April 22, 1899). In another and later article he says, "I have been doing this operation for nine full years. I have two hundred and thirty-six cases that have afforded splendid opportunity for postoperative observation and I have never seen any unfavorable symptoms. There is no atrophy of the testicle, no cystic degeneration, no disturbed mental or nervous condition following but on the contrary, the patient becomes of a more sunny disposition, brighter of intellect,

ceases excessive masturbation, and advises his fellows to submit to the operation for their own good. And here is where this method of preventing procreation is so infinitely superior to all others proposed—that it is endorsed by the subjected persons.” It is a fact that these unfortunates do not want progeny, for children to them mean more mouths to feed, and fewer luxuries for themselves.

What men of authority think on both sides of this question can be gleaned from the following:

Preston (J. A. M. A.) decries the operation and predicts the spread of rape and disease, if the fear of tell-tale progeny be removed.

Belfield, before the joint meeting of the Physicians and Lawyers Clubs, Chicago, advocated it, saying that “Society carefully rears all its defectives—criminals, imbeciles, etc.—to breed more of their kind. * * * The cattle breeder is wiser.”

Dr. Barr in his work, “Mental Defectives,” says: “Let asexualization be once legalized, not as a penalty for crime, but as a remedial measure preventing crime, * * * let the practice once become common for young children immediately upon being adjudged defective by competent authority properly appointed, and the public mind will accept it as an effective means of race reservation. It would come to be regarded just as quarantine, simple protection against ill.”

Cheesman (Med. Record) endorses it, declaring that the sure way to prevent crime “is to sterilize the parent criminal.”

Boies would incorporate such treatment of confirmed criminals into legal code. The law regulates vaccination, prophylaxis in infectious disease, etc.; who not here? “At the same time it allows its deformed and diseased in mind, body and soul to discriminate social leprosy and cancer and impurity, while the skill of the surgeon could prevent infection by an operation almost as simple as vaccination.”

Henderson quotes McKim as being radical enough to propose the killing of all persons whose hereditary strain promises bad issue.

Henderson himself thinks the remedy limited in application. It comes too late to prevent the mischief of vicious heredity before conviction.

Dr. Henry Hatch in an essay, "Crime and Criminals," takes the broad view that all children of whatever parentage, on arriving at the age of puberty, should be examined to ascertain whether or not they are fit to bring children into the world. Those unfit should be sterilized.

Paddleford says: "If this be going back to barbarism then I am very much of a barbarian. Every man comes into this world involuntarily, and he has the right to bring with him a clean bill of health and an unimpaired constitution. To handicap him with the results of the sins and shortcomings of his ancestors ought to be a good case of damages against his godfather, the State."

Sterilization and restricted marriage could go hand in hand, though I see religious breakers ahead. Boies advocates a sort of bill of health issued before marriage, passed upon by a board of physicians who shall keep in view the condition of probable descendants. Lydston approves this scheme: "The court of appeals to which adverse certificates of matrimonial qualifications should be referred is the surgeon's knife. Individuals who, in the face of advanced medical opinion, still desire to marry should be given the privilege of living so, provided they submit themselves to sterilization.

In Indiana sterilization of degenerates is lawful, and I will devote a few minutes to the work there. The law reads as follows:

A Bill for an Act, entitled an Act to prevent procreation of confirmed criminals, idiots, imbeciles, and rapists; providing that superintendents and boards of managers of institutions where such persons are confined shall have the authority and are empowered to appoint a committee of experts consisting of two (2) physicians to examine into the mental condition of such inmates.

WHEREAS, Heredity plays a most important role in the

transmission of crime, idiocy and imbecility; therefore

Be it enacted by the General Assembly of the State of Indiana :

That on and after the passage of this Act it shall be compulsory for each and every institution in the State, entrusted with the care of confirmed criminals, idiots, rapists and imbeciles, to appoint upon its staff, two (2) skilled surgeons of recognized ability, whose duty it shall be, in conjunction with the chief physician of the institution, to examine the mental and physical condition of each of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of this committee of experts and the board of managers, procreation is inadvisable and there is no probability of improvement of the mental and physical condition of the inmate, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But the operation shall not be performed except in cases that have been pronounced unimproveable. * * *

The widest possible scope is given the examining board, which is essential, as each case must be dealt with individually. Epileptics come under the law, those forms of insanity which show hereditary tendencies are covered. The mental capacity of the occasional offender determines the decision of the board. It all hinges on the inadvisability in the mind of the board, of allowing procreation. The law, being the first of its kind, is of course faulty, for instance, the insane are not mentioned. The law calls for two consulting surgeons, when an expert in mental diseases might often be of more aid. Time will remedy this. Again, it mentions the probability of improvement as a contraindication. In selected cases, this is correct; but as a rule, although an insane person may become rational, although a man for years an alcoholic may reform, although a criminal may be reclaimed, still, the stamp of degeneracy is on them, and progeny, though born after the regeneration, is likely to copy its parent's former self.

Dr. Sharp tells me that about two-thirds of his cases have requested the operation. I saw some of the letters of request. They are always based on the idea that the unfortunate will be relieved of his inordinate and unsatisfied sexual desire. To my surprise, Dr. Sharp says this is somewhat accomplished, though indirectly. He has observed fewer erections, due in his judgment to the less overdistended condition of the seminal vesicles, and to the lack of testicular secretion, which he believes, acting as an irritant, promotes priapism. The diminution in masturbation is marked. I talked to these men and found them cheerful, full of praise for the operation, and emphatic in their statements as to its beneficial effects. Sexual desire and pleasure were not diminished except as above explained.

I have been unable to get any data on the female, but we have every reason to believe that the results would be similar. Sexual perverts and drug habitues are degenerates and should come under the law. Rapists deserve a separate chapter, just as they do a separate place below. Paupers, who are infected with degeneracy should be sterilized and never, unless sterilized, be allowed to marry so long as they are wards of the State. The difficulties which I am optimistic enough to believe will be surmounted, will of course come, and be perplexing, in those border line cases of insanity and inebriety.

From the standpoint of dollars and cents, with each arrest costing the State (Mass.) \$50.00, each conviction costing \$350.00, and criminality in general costing the United States \$6,000,000.00 annually, with insane asylums, poor houses, and the like full and crying for larger accommodations for the ever increasing numbers of their inmates, with the criminal class increasing at the rate of 42 per cent. in ten years, against a 24 per cent. increase in the desirable class (Boies). I believe we can answer the question, "What shall we do with the criminal?" as did Cheesman. "Manifestly prevent him from doing for others what his depraved parents did for him. Why go on eternally imprisoning and executing this aberrant race? Prevent them from reproducing themselves * * * this would be merciful to the unborn generations."

VERSION.*

BY WALKER B. GOSSETT, M.D.

Adjunct Professor Obstetrics, University of Louisville.

Version may be required in the following conditions:

1. Transverse presentations.
2. Contracted pelvis.
3. Cases in which rapid delivery is necessary, provided delivery by the forceps is not safe or practicable, as placenta previa, rupture of the uterus, prolapse of the cord, convulsions, tedious labors, and puerperal hemorrhage, etc.

Choice between cephalic and podalic version:

(a) When correction of a malpresentation is all that is required, and circumstances do not render subsequent immediate delivery necessary, perform a cephalic version.

(b) When a rapid delivery is necessary, perform a podalic version.

Before performing version, the operator must have a true mental picture of the position of the foetus *in utero*, and he must have a personal knowledge that all the necessary preparations for the various emergencies which may arise, are at hand.

There are three methods of performing version, viz.:

1. External manipulation, before the os is dilated.
2. Combined manipulation, as soon as the os is dilated sufficient to introduce one or two fingers.
3. Internal manipulation, when the os is dilated or dilatable.

The Operation of Version by External Manipulation.

It is used mostly for the correction of a transverse presentation, either before the labor begins or, the labor having begun, before the liquor amnii has been discharged; or as soon thereafter as possible, while the child is easily movable.

To perform the operation the woman should be placed on her back, with the thighs flexed; uncover the abdomen;

*Written for this Journal

then with the flat hands—one over the child's head, the other over breech—gently push the head toward the pelvic brim, and the breech up toward the fundus uteri. Manipulate only at interval of pains; if the pains come on, stop manipulation, but hold the child firmly enough to retain any degree of change in its position already gained. When the child slips around into its right position, rupture the membranes, if the labor has begun, that the uterus may contract and keep it there. Now, if the labor has not begun, place two pads—one on the side of the uterus high up against the breech, the other on the opposite side lower down against the head—and retain them with a binder.

*The Operation of Version by Compound Manipulation
External and Internal.*

This method was first proposed by Bush and Dr. Wright, of Cincinnati, and was later advocated by Braxton Hicks, of London. This is the second least dangerous method; it is to be tried after external version has failed.

Thus, in head presentations, the operation comprises three steps, viz.:

1. The fingers inside lift the head toward that iliac fossa toward which the occiput points, while the hand outside depresses the breech along the opposite side.

2. The fingers inside can now touch the shoulder or sternum, and they push or lift it in the same direction as the head. The hand outside still depresses the breech. The breech and knee are now within reach of the fingers.

3. Grasp the knee (the membranes, if unbroken, may be ruptured), and pull it down, while the hand outside changes its position so as to push up the head toward the fundus. The foot may now be reached, and cases managed as a footling or breech. In cephalic version the fingers inside will push the shoulders in the direction of and after the breech; the hand outside depresses the head.

The Operation of Version by Internal Manipulation.

This operation is comparatively easy before the waters have escaped, and when the uterus is not rigidly contracted around the child.

Conditions necessary before this operation should be attempted, viz.: First, the pelvis must be of sufficient size to admit the hand; second, the os uteri must be dilated or dilatable; third, the head, if it presents, must not have passed through the os uteri; or the presenting part must not have descended so low or become so firmly impacted in the pelvis that it can not be pushed back above the superior strait without risk of lacerating the uterine.

Cephalic version by the internal method, or manipulation, is not to be recommended.

The Operation of Podalic Version by Internal Manipulation.

This operation comprises three steps, viz.:

1. Introduction of the hand and grasping the foot or feet.
2. Turning of the child.
3. Extraction of the child.

The first two steps to be proceeded with only during the interval of the pains: When a pain comes on, hold the hand still, relaxed and flat, thus avoiding the risk of rupturing the uterine wall with the knuckles. The third step performed during a pain.

The woman is placed on her back, the hips brought to the edge of the bed. If the womb be firmly contracted and the liquor amnii has escaped, then complete anesthesia is required. The operator should have his arm bare to above the elbow, and anointed with vaseline on all parts except the palm of the hand. Use the hand the palm of which corresponds to the abdomen of the child. The finger ends are brought to a cone and introduced into the vagina in the axis of the pubic outlet, back of the hand to the sacrum.

In transverse presentations, use right hand for right side (shoulder), left for left. Introduce the hand into the uterus in the axis of the brim, while the other hand is outside making support and counter-pressure. With the thumb between the head and pubes, and the fingers between the head and sacrum, the head is grasped and

lifted out of the way. The wrist resting against the forehead keeps it in position. Pass the hand on up, grasp the feet, one or both, and then turn the child (second step). Should the membranes be unbroken, they should be ruptured when the hand passes by the head into the uterus. King, "use the right hand for right presentation, and left for left." In a right lateral presentation, when the position is a dorso-anterior, the feet will be found toward the right and posterior part of the uterus above the right sacro-iliac synchondrosis. So pass the right hand along the hollow of the sacrum to the right and higher up of the promontory and grasp the feet. In a dorso-posterior position of the same right lateral presentation, the feet will rest toward the left and anterior part of the uterus above the left acetabulum. So pass the right hand directly up and grasp the feet behind the pubes and acetabulum instead of going behind the child's breech and pronating round it. This method is made easier by placing the woman on her side—the side toward which the feet are directed—while the operator, standing behind her, passes the hand—right one for right lateral presentation, and left one for left, as before stated—with its back toward the pubes and acetabulum, directly to the feet."

When the child has been turned, the case may be left to nature, unless circumstances render rapid delivery necessary. If case is to be left alone, then only one foot should be brought down, so that the buttock of the other side may add to the size of the breech and produce more dilatation of the cervix. This permits easy passage of the head.

SERUM THERAPY OF GONORRHEA.*

BY ERNEST KOCH, M.D.,

LOUISVILLE, KY.

Among the infectious diseases in which serums have been experimentally used is gonorrhea and its complications. The medicinal agents that have heretofore been employed for the relief of this condition have been so numerous and no one has any marked advantage over the

*Read before the West End Medical Society.

other, the discovery of a specific would indeed be a triumph. In the opinion of the writer, a perfected serum, a gonorrheal antitoxin, will in the near future be employed with that degree of success. The anti-gonococcus serum is the blood serum of an animal (rabbit, sheep or goat) which has been repeatedly inoculated with living gonococci, whose toxins have provoked the production by the animal's tissues of an antitoxin, a substance that restricts the growth of the bacteria producing these toxins. It is therefore analogous with that successful therapeutic agent, the diphtheria antitoxin. A typical gonococcus reaction is characterized by a rise in temperature, often only slight; an increase in pain and tenderness in the affected joints, with occasionally some increase in swelling and a variable degree of malaise. The symptoms follow the injection in from eight to twelve hours and usually lasts about twenty-four hours. Frequently there is a decided tenderness at the site of the injection, greater than occurs after the inoculation of the same dose of the same preparation in normal subjects. As serum therapy in gonorrhea is yet in the experimental stage, I will give some of the conclusions and results of a few of the active observers. Rogers states that the anti-gonococcus serum found best was that prepared from sheep, and the dose of an active serum is about 2 c.c. (30 minims). This was injected into the loose subcutaneous tissue between the deep fascia and skin in the back of the upper arm, first on one side, then on the other, at intervals of from two to six days. If thorough asepsis was maintained and the serum was clear and not contaminated, suppuration would not occur. Following the local reaction there would be an increase in the joint symptoms for a few hours, which was later followed by more or less marked improvement. In cases treated early in the disease, before there had been time for much effusion or anatomical changes, two or three of these injections, at intervals of twenty-four to seventy-two hours, might effect a complete cure; the urethritis, or the original source of the infection, should not be neglected, as the serum had little or no effect on it, and unless the usual local antiseptic and astringent treatment was energetically carried out, a re-

infection or recrudescence of the metastasis would be expected. Patients who had had gonorrheal joint symptoms for several weeks might require a dozen or more injections, but in at least 75 per cent. of all the acute or subacute or early chronic forms of the disease, success can be expected. Old chronic forms of the condition and mixed infections were the failures. Torrey agrees that the serum has a specific curative effect on gonorrheal arthritis. In seventy patients in his clinic, fifty-five subjected to this treatment were entirely cured or greatly benefited (about 78 per cent.). In the remainder there was slight or no improvement. The average number of injections per patient was five, and twenty individuals were cured in ten days or less. Even some of the chronic cases were improved, though it required many more injections, and the improvement was slow.

Belfield, of the Chicago Polyclinic, gives the following record of his experience. He prefers giving subcutaneous injection in the abdominal wall, as he thinks the reaction following almost every injection is best tolerated in this part of the body. Fifty-two cases, including almost every form of gonococcus infection, were injected with this serum. Of the first group, the acute gonococcus infection of the anterior and posterior urethra, seventeen individuals were treated, receiving the maximum dose (6 c.c.) as frequently as the reaction would allow, without any change in the discharge from the urethra or other symptoms.

Group two: Subacute gonorrhea of the anterior urethra or anterior and posterior urethra; nine patients were injected. Eight of these did not show any improvement after repeated injections. One cleared up after the third injection.

Group three: Chronic gonorrhea of the anterior and posterior urethra; eleven patients were injected. Seven did not show any improvement; one cleared up in four weeks after getting eight injections; one after six injections, in three weeks time. Two passed clear urine after four injections covering two weeks.

Group four: Acute gonococcus infection of the epididymis; four were injected. Three did not improve as

quickly as usually seen with local treatment. In one case the swelling subsided in two weeks without the return of the discharge from the urethra; this patient received six injections of 4 c.c. each.

The last group of cases were all chronic joint infections. All improved promptly after the first few injections.

The literature of the past year confirms the inferences drawn from earlier reports, namely, that the great value up to now lies in the treatment of gonorrheal lesions of serous membranes—gonorrheal rheumatism—with the serum, while the lesions of mucous membranes are less benefited. However, when we consider that serum therapy in these conditions has been advocated but six years with average success, it is only reasonable to expect better results with the improvement of serums in the next few years.

Clinical Department.

DIABETES IN A CHILD.*

By F. M. GAINES, M.D.,

Carrollton, Ky.

Boy, white, age six, family history good except that an uncle died of tuberculosis. Has been delicate all his life, had all the disease of childhood, scarlet fever when a few weeks old; a mild case of smallpox three years ago, and about a year ago while on a visit in another county, had what the attending physician called "congestion of the lungs," was ill about a week. Soon after this there was noticed a progressive emaciation, appetite remained good (never ate any sweets), skin dry and presenting the appearance of bran, passing large quantities of urine—about two gallons in the twenty-four hours, and as clear as distilled water, specific gravity 1030, and containing sugar. The sugar and high specific gravity remaining about the same for three or four months, but on a restricted diet

*Reported before the Eagle Valley Medical Society at Sanders, Ky

the sugar disappeared, the specific gravity running 1026 to 1028. In February the case was presented to the Carroll County Medical Society; at this time there was no sugar, no albumen, acid in reaction and specific gravity 1010. It was suggested that he be given codeine, this was done in slightly increasing doses. Boy steadily improved in health and weight.

On the 10th of April, when I was called to see him, his mother stated that he was taken suddenly ill the night previous with a diarrhea and pain in the abdomen. I found him with a temperature of 104 F., dry red tongue, tenderness over upper part of the abdomen, liver tender but not enlarged, no involvement of spleen, pain and tenderness over region corresponding to the pancreas. He complained of this more or less throughout his period of illness. There were profuse watery discharges from the bowels, no nausea, and for two or three days slight frontal headache. The diarrhea subsided in twenty-four or thirty-six hours and he was constipated most of the time afterward. The temperature remained about 104 F. for about ten days, there was low muttering delirium, picking at the bed clothes and imaginary objects in the air.

Occasionally the delirium was of violent character, but most of the time he lay in a semi-comatose condition. There was an annoying cough with rales over the right lung. After the first week or ten days temperature began to vary, there would be intermissions from two to ten hours, and then the temperature would run up to 104 F. with no regularity in temperature curve or intermissions; at times there was profuse sweating, after the first few days the tongue became moist and less red with white fur in center. In his most serious condition there was a slight opisthotonos or rather a drawing back of the head, eyes rolling upward and to the right, pupils normal. This condition lasting a few hours at a time for nearly three days, during which there was nausea, vomiting and complete anorexia. On two occasions there was suppression of urine, once for twenty-four hours and again for nearly thirty-six hours. Urinalysis showed no

albumen, no sugar, specific gravity from 1005 to 1010 and the color varying from light straw to muddy red.

The fever ran its course in three weeks, since which there has been a slow but steady improvement. There is no trace of sugar in the urine, the rales have cleared up, the patient has gained in weight, eats well and is at the present time the picture of health.

Selected Article.

THE INFLUENCE OF ALCOHOL ON TRAUMA

BY FREDERIC S. DENNIS, M.D., F.R.C.S.,

NEW YORK.

Professor of Clinical Surgery, Cornell University Medical College.

The relation between alcoholism and traumatism is a subject of paramount interest to the physician as well as to the surgeon. There is a want of information upon this important question in medical and surgical literature. The fact that alcoholism is embraced among the diseases treated by the practitioner, and only occurs to the surgeon as an incidental complication, explains the reason why this relationship has never had special recognition either by the physician or the surgeon. The result is that no precise or accessible knowledge is available for guidance in the management of these cases. The mortality is a sufficient reason for bringing the profession this relationship between alcoholism and traumatism. The study of this subject must be considered as an entity which requires a knowledge of medicine and surgery, both of which are essential to a complete understanding of their relationship. My attention has been forcibly drawn to a study of this subject by an experience of over a quarter of a century in several large metropolitan hospitals, where an immense field for observation has enabled me to study the subject in its twofold relationship. The deductions which have been drawn from a study of thousands of cases of this nature, and the conclusions which have been arrived at from this wide experience, have enabled me to place before the profession some facts of interest in the management of these cases. It is not uncommon to see several cases in a single day of traumatism in alcoholic patients.

and a study of the outcome of this class of patients during the last twenty-five years has led me to believe that many patients die because of a too limited survey of the situation, and that often they are relegated to the insane asylum, and that the entire condition involved is not grasped by the surgeon.

It is difficult to explain why delirium tremens is likely to follow trauma in a person addicted to alcohol. Dr. Fraenkel says: "It is rather difficult to give a satisfactory explanation for the nervous and brain symptoms following traumatism or infections in alcohol and drug habitues. Physiological common sense would suggest as a reason the pharmacodynamics of these stimulants. All stimulants first excite and then depress the nervous system. Chronic abuse naturally leads to a chronic depression, i. e., to a considerable lowering of the physiological margin of neural reserve force. Naturally when this force is called upon to do extra physiological work, postinfectious or posttraumatic reactions, the evidence of deficiency, appear."

In all cases of trauma there are many points of view from which the surgeon must investigate each case. There are the immediate consequences which may be mechanical or surgical, or neural. Then again there is the adventitious, traumatic or surgical infection, and finally there is the influence of chronic alcohol or drug habit, and it is to the influence of alcohol on trauma that forms the *raison d'être* of this paper.

The object of this paper then is to call attention to the relation between alcoholism and traumatism, since it affects the comfort, the length of time of the illness, and the mortality of the patients in whom this peculiar condition exists, as well as the final mental condition which results from traumatisms especially where the head is involved. With this end in view it is of the greatest importance to study the conditions that are likely to develop alcoholism in all varieties of trauma, and if possible frame some kind of a picture for study. In other words it is difficult to determine where the line of demarcation is to be found in order to decide whether active aggressive measures are to be resorted to as a prophylactic measure to avert the severe and dangerous symptoms of alcoholism. This question has been hard to settle owing to the peculiar idiosyncrasies of alcohol upon certain individuals. The personal equation is of the greatest importance since a moderate alcoholic habit may be the cause

of an attack of delirium tremens that terminates fatally as a result of slight traumatism, and upon the other hand, it is possible for some inexplicable reason that a heavy drinker with a severe lesion may escape this complication. It is for this reason that it has been difficult to form the line of demarcation between those cases of trauma in which alcoholism will, and those in which it will not assert itself.

There is no way at the very outset to tell whether delirium tremens and wet brain will follow after a trauma, the severity of which in some cases seems to have no influence. The long continued use of alcohol in certain individuals seems fraught with little danger, while in other individuals a small amount continued over comparatively a short period, has been attended with fatal results. It is not so much the quantity of alcohol that is taken as it is the time in which it is taken and the manner in which it is assimilated that determines the outbreak of the nervous phenomena. The man who confesses to drinking before breakfast is the patient who almost invariably succumbs to the dangerous symptoms of alcohol following a trauma. It may at first seem strange that the time of drinking has so much influence in determining the probabilities of an outbreak of delirium tremens often followed by wet brain. This reason is found in the fact that the early morning drinker is one whose nervous system has already been undermined by long use of alcohol, and the early morning craving for liquor on an empty stomach presupposes a pathological condition of that organ.

Every case of trauma, either accidental or surgical, in a patient addicted to the alcoholic habit, requires close watching on the part of the surgeon. The prevention of delirium tremens can be best secured by active aggressive measures at the very first appearance of any prodromic symptoms. A delay in the administration of the proper remedies defeats the very object for which the medication is employed. The conditions are similar to those of tetanus, where the use of the antitoxine must be early, and before convulsions appear, in order to be of the greatest service, since experience has taught that antitoxine is of little avail after the convulsions have been established. The surgeon, therefore, must be alert to observe the first appearance of any nervous phenomena. These patients begin to talk incessantly, and often incoherently, and in an excited manner. They become

restless, complain of insomnia, have delusions, start up suddenly from the bed, try to get up and walk around, and express a wish to go out on some errand. The tongue is tremulous and coated, the fingers are unsteady when extended and spread out. They often have carphologia and throw the arms about in bed. They feel the pulse and notice their general muscular tremor. Any patient showing some or all of these symptoms upon receipt of a trauma should be immediately given an aggressive prophylactic treatment, and thus avert an attack of delirium tremens. These prodromata on no account should be overlooked, for upon the prompt application of the proper remedies can this serious and often fatal complication be averted. It will not avail to wait until such symptoms as have been briefly described are well developed, and to which hallucinations have been added, since success in the management of these cases is most likely to follow only after medication in anticipation of this serious complication.

The first and most important step to consider in all cases of trauma is the knowledge of the habits of the individual injured. Information upon the habits of the patient may necessitate the treatment of an underlying or imminent condition that is likely to assert itself in the form of a most distressing and dangerous complication. It is the most important thing to consider in the treatment of all of the cases with an alcoholic history. If a patient confesses to be in the habit of drinking, it is necessary for the surgeon to ascertain the duration of the habit, the amount of stimulants imbibed, the kinds of liquor consumed, the time when it is taken, and the fact whether there has been at any time in the past an attack of alcoholism.

Before discussing the treatment of trauma associated with alcoholism, it is profitable to present a few facts that seem pretty well established in the clinical history of these cases. Delirium tremens will not develop after the receipt of trauma when the patient is suffering from a first debauch no matter how much liquor has been imbibed. In other words it does not follow an acute intoxication in a temperate person. Delirium tremens is a sequence or a complication of trauma when the patient has been long in the habit of imbibing alcohol, and especially so, if he has been accustomed to early morning drinking on an empty stomach. Delirium tremens is also likely to develop in a patient who has been a drinker, but who has been suddenly deprived of

alcohol in consequence of his admittance to the hospital. With these facts before the surgeon he is enabled to intelligently comprehend the condition and to institute a plan of treatment with a view to avert delirium tremens and the wet brain. The nature of the trauma has little influence on the development of the symptoms due to toxæmia of alcohol, unless perhaps fractures seem most prone to cause nervous phenomena. Usually the symptoms of alcoholism do not appear immediately upon the receipt of the injury. It may require several days, and it is during this semiquiescent period that the prophylactic treatment is to be initiated in order to be attended by the best results. If a patient has a clear alcoholic history the prophylactic treatment should be begun without delay. It is the general experience of observers that beer drinking alone is not so apt to cause delirium tremens as the use of whiskey or brandy. The beer drinker, however, is most prone to delirium tremens if he adds whiskey to his beer drinking; but a large number of alcoholics have become so by adding the whiskey to a long continued practice of beer drinking. The tendency of beer drinking is greatly strengthened by cigarette smoking; because this habit becomes almost constant and causes a dryness of the throat and fauces, and hence aggravates the thirst. Excessive cigarette smoking destroys to a certain extent the conductivity of the motor nerves, and likewise affects the motor tracts of the cord. The cigarette smoker forms a habit which unfits him for performing mechanical work in which great delicacy of manipulation is necessary. This form of smoking is universally prohibited among athletes during the period of training. By inhalation the nicotine becomes volatile, engenders a gas which acts as a poison, and prevents the capillary system from performing its normal function, which in time affects growth. The action on the heart is deleterious, and gives rise to the smoker's heart which is incapable of strain in any great physical emergency. It is not only the heart, but all other organs which sooner or later become affected so that digestive and respiratory functions are impaired. Dr. Woodhull mentions in his interesting paper that "cigarette smoking is said to induce premature puberty, to excite the sexual appetite, and to lead to self abuse."

The three cardinal symptoms should be considered in every case of alcoholism associated with trauma. They are tremor, insomnia, and delirium with no febrile disturbance, and when

this group of symptoms appear in any case of trauma in an alcoholic patient, the attention of the surgeon should be at once arrested. Anstie has called attention to the clinical fact that the supreme disgust for alcohol or a distaste for it in a chronic drinker is often the first indication of an approaching attack of delirium tremens. This aversion to alcohol may occur one or two days after cessation of drinking, and it is at this time that this symptom is said to be of importance. These cases of delirium tremens are seldom followed by rise of temperature unless there is added some inflammatory condition or some septic infection of a wound in connection with the trauma. The rise of temperature is due to a pneumonia or meningitis, either of which is prone to follow in these cases, or to the direct effect of the alcohol upon the cerebral heat centres.

The elevation of temperature is to be looked upon as adding great gravity to the case, and the fatal cases almost always die with a gradually rising temperature even to 108 degrees F. as I have seen occur many times.

While making these observations on the influence of alcohol on trauma recently some cases have come under my observation and treatment, which in this connection are of special interest. The first one was a woman upon whom an operation for the radical cure of hernia was performed. The patient did fairly well as far as the operative part was concerned; but after a fortnight some peculiar mental symptoms appeared. She became delirious and noisy, and insisted upon getting out of bed, and finally reached a stage of maniacal excitement which required large doses of hypnotic remedies and forced restraint to control. After an investigation into her family history it was ascertained through her children that for over forty years she had been an inveterate snuff taker, and that since she had been in the hospital the long continued habit had been broken off owing to her environment. She was at once allowed snuff, and gradually emerged from her delirium tremens and soon became perfectly rational. The snuff was then taken away from her and her delirium and other nervous phenomena reappeared, and then the snuff was given, and her condition became again rational. This case is mentioned to illustrate the effects of suddenly breaking off a habit to which she had been a slave for so many years. Dr. Kinglake says "the practice of snuff taking is the most baneful

that popular custom and familiarity have sanctioned as innocuous and gratifying." The snuff which is powdered tobacco is intended to stimulate only the anterior nares: but as a matter of fact it enters the posterior nares, and goes down the œsophagus into the stomach. Here it destroys the healthy digestive secretion, and disturbs the mucous membrane of the stomach. Murray has suggested that Napoleon, who was an inveterate snuff taker, and who died of cancer of the stomach, contracted his disease through the irritating influence of powdered tobacco upon the delicate mucous membrane of his stomach. Such a deduction could only be made on the general principle that a continued irritant is likely to develop a carcinoma in a person with a predisposition to the disease, and that any other irritant continuously applied might cause the same disease in the same way. The fact remains undisputed that history shows that snuff taking has a most deleterious action on the nervous system as is well illustrated in the case of the woman whose remarkable history has been narrated. Apropos of this subject Dr. Fraenkel has published eighteen cases of lead poisoning from snuff taking. The paralysis was not due to the snuff, but to the lead with which the snuff has been adulterated. I have seen many of these cases in the Montefiore Home, and it was shown that all of them procured their snuff from the same place, and an analysis of the snuff revealed the presence of lead.

The second case that came under my observation was a well known physician who consulted me in reference to his condition which he attributed to excessive smoking. The advice that I gave him, among other things, was to gradually diminish daily the great number of cigars which he was in the habit of smoking. This advice was disregarded, and he suddenly stopped his smoking absolutely, and the result was a mild attack of delirium tremens. He began smoking again and then reduced the number of cigars daily, and finally overcame the habit and has since been well. These cases illustrate most forcibly the danger of suddenly checking a habit in which drugs or alcohol are involved that has been continuous for many years. Excessive tea drinking extending over many years has been reported also as a cause of mild attacks of delirium tremens, when the libations are suddenly and absolutely interrupted. Chloroform has also been the exciting cause of this nervous condition when inhaled for a period of time. One case is reported in which two and a half pounds of chloro-

form was inhaled in a fortnight, and its sudden cessation developed like nervous phenomena.

In addition to delirium tremens produced by alcohol, drugs, and snuff, a new exciting cause has recently come under my observation. The poison in these cases was illuminating gas, and the circumstances are so unique that the cases are worthy of mention. There were two persons admitted to St. Vincent's Hospital, one to Dr. Ferrer's service, and the other to Dr. McGuire's. Both patients were unconscious from gas poisoning when admitted. These two individuals were man and wife, and were in the same bed, and both were subjected to the same amount of poison at the same time, and both were almost pulseless on their arrival at the hospital. They were finally revived by cardiac stimulants, saline irrigations, and oxygen. In the man, after his return to consciousness, delirium tremens developed, and he became so violent that restraint was employed to keep him in bed. It was ascertained that he was a chronic drinker, while his wife who did not drink rapidly recovered after her return to consciousness. These two patients subjected to the same irritant under precisely similar circumstances illustrate the action of alcohol upon the nervous system when the poisonous gas acted a good deal in the same manner as trauma. The same conditions are true of morphine, cocaine, and other drugs; but cases of delirium tremens caused by the sudden withdrawal of these drugs do not so often occur in surgical practice, as in the case of poisoning from alcohol, though the same phenomena often occur if the arrest was complete and sudden following a severe trauma.

With these facts before us the relationship between the effects of long continued use of hypnotic drugs and alcohol and trauma seem clear. The statement of Dr. Murray, of England, is most pertinent when he states that "inhabitants of every clime have discovered or acquired some method of producing exalted sensations in order to appease what seems to be a universal craving of humanity." It is a battle against these evil habits that humanity must fight, and it becomes the duty of the medical profession to provide means and measures to counteract this growing vice. The responsibility which the medical profession must assume is great, and to this sacred trust the profession lends its aid and support with all the influence it commands. Much can be accomplished by the medical profession toward the alleviation

of these most distressing and baneful conditions; but on the unfortunate victim himself rests likewise the responsibility of co-operation, and with combined efforts carried on faithfully by the profession, and cheerfully by the patient, a result for the good of the patient can be confidently expected.

Before presenting a plan of treatment of delirium tremens occurring as a sequel to trauma, I desire to call attention to the great diversity of opinion that exists among medical men as regards the management of these cases. There seems to be no disease in which so wide a diversity of opinion as to treatment, prevails. Remedies that have met with the greatest success in the experience of some men, are counted as "absolutely worthless" by others. The use of stimulants for a short period at the onset of the attack is condemned in most vehement terms by some, and highly commended by others. It seems discouraging to find such conflicting views upon a subject where certainly a unanimity of opinion should exist. It is impossible to reconcile these various conflicting views, and the only thing that seems best to do is to adopt that plan which seems most rational, and is attended by the best results as proved by the duration of the disease, the comfort of the patient and the less mortality. This general proposition is a wise one; but there must be exceptions and variations in practice and these must be left to the judgment of the medical man.

The question of prophylactic treatment in these cases of simple trauma becomes emphasized in a most impressive manner when it is considered that among the insane received in two years in the Morristown Insane Hospital forty-six per cent. are due to alcoholism as reported by Dr. McKinnis, and that among the insane received in the Manhattan State Hospital in one year, Dr. Mabon found that alcohol alone or in combination was responsible for the insanity in thirty-seven per cent. In 961 cases in which a reliable history could be obtained the ratio among men was fifty-five per cent. and among women it was twenty-two per cent. In my experience fractures of the base of the skull associated with a previous alcoholic history form a combination which often results in insanity. I have seen patients emerge from a wet brain and then degenerate into a mental condition that made it necessary to send to the insane hospital.—*New York Medical Journal*.

(TO BE CONCLUDED IN NEXT ISSUE.)

Recent Progress in Medical Science.

STRYCHNINE IN PNEUMONIA OF THE AGED.

William Francis Waugh, of Chicago, Ill., says that in pneumonia of the aged strychnine is the medicine par excellence for use. We should first clear the alimentary tract and eliminate the factor of fecal toxemia; force the emunctories and see that the toxins are passing out by all the natural channels; then sustain the vitality from the beginning with strychnine. The fever should be moderated and nutrition kept up. Leucocytosis should be increased, and each symptom may be met with an appropriate remedy. The pathological conditions are the things to treat, instead of looking for a specific. Strychnine fulfills many of these indications. Normal saline solution to swell the volume of the circulation is appreciated by few. Strychnine arouses the powers and energizes them; it restores elasticity and enhances vital function; increases respiration and aids digestion; tones up the heart and circulation, and aids elimination by the bowels. The arsenite of strychnine is the best salt to use, in doses of one-half milligram every hour, half hour, or quarter hour, as needed.—*Medical Record*, May 29, 1910.

RETROPERITONEAL ENLARGEMENTS.

W. H. Allport, Chicago, (*Journal A. M. A.*, June 18), discusses the diagnosis of retroperitoneal growths, giving illustrative cases of how it may be embarrassed and limited. Educated methodic diagnosis is essential, the genius for surgical diagnosis consists almost always in systematized knowledge. The surgeon should take no man's word, but to do his own guessing and do it scientifically, recollecting always that his insight, like all applied knowledge, has its limitations, and acknowledge them in time instead of having them demonstrated later on. Abdominal regions, as usually demarcated, are for the student of anatomy: the surgeon and pathologist are concerned with boundaries. Displaced organs still move most readily toward their normal position and the growth of the abnormally enlarging or-

gans is apt to occur within the normal zone and fascial plane, usually along, rather than across, the normal cleavage planes. To the surgical pathologist the profitable anatomic study is that concerning the distribution of fascias. Neoplasms are usually closely associated with organs; the irregular and atypical enlargements which follow fascias are apt to be either secondary deposits or chronic suppurations, more likely the latter. When in doubt, one should never forget that arch deceiver, the cold abscess. Chronic suppuration is rarely recognized by the direct method; diagnosis by exclusion is the rule. Attention is especially called to the history sheet, the temperature chart, the blood count and the urinalysis reports as aids for diagnosis. Inflation of the colon by Ziemssen's method often enables one to assist diagnosis by crowding the tumor into one or the other space in front of or behind the posterior layer of the peritoneum. If the growth is thus found to be retroperitoneal, the kidney should be studied again by palpation, urine analysis, the x-ray; and, finally, by metallic ureteral catheterism combined with skiagraphy. A number of instructive cases illustrating these puzzling points for diagnosis are given in brief detail, and, in conclusion, Allport emphasizes the puzzling clinical problem afforded by hysteria and functional pain. He says that it is a grave question whether pain which the surgeon believes to be genuine, but which exists alone without other symptoms, justifies him in cutting into the peritoneum or retroperitoneal space. His own observation of such cases has not been favorable to operation. The neglect to recognize and properly appraise hysteria is as frequently the cause of failure of diagnosis as is the failure to identify the cold abscess.

THE USE OF OIL IN ABDOMINAL SURGERY.

Wilkie, on the basis of an experimental research, supplemented by some clinical observations, concludes that the surgeon may feel justified in advocating the introduction of oil into the peritoneal cavity after operation for the relief of old standing adhesions; in operations for localized or diffuse peritonitis where handling of the viscera is unavoidable; for operations for generalized peritonitis to favor subsequent drainage and intestinal peristalsis.

The last indication he thinks is the most positive one, since thus adhesions will be prevented for a few days at least, thus allowing the purulent exudate to find its way down to the pelvic drain and so escape. Moreover, the general lubrication favors intestinal peristalsis. In one clinical case two ounces of sterile vaselin oil was poured into the abdomen at the conclusion of operation for perforation in a partially gangrenous cecum which had herniated through the foramen of Winslow, and in which, at the operation, considerable exposure and handling of the intestines was unavoidable. Death occurred thirty-six hours later, when the intestines were found non-adherent and covered with a thin film of oil.

In a second case of acute general peritonitis incident to a ruptured appendix, pus and fibrin being found covering the liver and under surface of the diaphragm, the same procedure was carried out. The patient passed flatus a few hours after operation and exhibited none of the symptoms of intestinal paresis.—(*Surgery Gynecology and Obstetrics.*)

STRANGULATED OVARIAN TUMOR IN A CHILD.

Swainson reports the case of a child of two years of age, admitted to the hospital for acute abdominal symptoms, of four days' duration. A tumor was felt in the right iliac fossa. On laparotomy a strangulated ovarian tumor the size of a tangerine orange was removed.—*Proceedings of the Royal Society of Medicine.*

TAMPON FOR NASAL HEMORRHAGE.

M. D. Stevenson, Akron, Ohio, (*Journal A. M. A.*, June 4), uses a tampon composed of compressed cotton modified from Simpson's tampon, three inches long by one-half inch wide by one-sixteenth thick, wrapped as in a cigarette with gutta serena tissue. The free edge being gummed down by some sterile ointment except at the ends. These smooth surfaced tampons are easily and usually painlessly removed, and he thinks they are much better than trusting to local medicinal applications in cases of postoperative hemorrhage. Sterile water or salt solution should be dropped at the ends to cause the tampon to swell and fill the passage. Two can be used side by side in very wide fossa and they can readily be narrowed by clipping.

A MORE LIBERAL DIET IN ENTERIC FEVER.

Thomas A. Clayton, of Washington, D. C., pleads for a more liberal diet in typhoid fever. His patients are far more comfortable, not having that ravenous hunger that patient have when fed entirely on liquids, are not so profoundly nervous, and are better nourished. Neither hemorrhage nor perforation is more frequent than among those kept on liquids, and delirium is less pronounced. Convalescence is more rapid, and the patients return to a good general condition and a normal physical and mental state far more rapidly. The diet should be such as to keep up the body equilibrium as much as possible; it should be easily digestible, innocuous, and palatable. The author allows soft boiled eggs, scraped meat, rice, scraped apple, custard, etc.—*Medical Record*, June 18, 1910.

PLACENTA PREVIA.

Edward P. Davis, of Philadelphia, Pa., classes placenta previa into marginal, lateral, and partial. The causes are relaxed uterine muscle found in ill-developed, poorly nourished women. The diagnosis may be made by auscultation in many cases, by hemorrhage without pain, bright colored and coming at irregular intervals, often after exertion. In central placenta previa the patient should be transferred to a hospital and treated by abdominal section. When this can not be done, an aseptic technique may be carried out in the patient's home and the operation done. When an effort is to be made to save the life of the child and abdominal section cannot be done, the introduction of an elastic bag through the placenta may be attempted. This should be followed by vaginal delivery by forceps or version. If the life of the child is not regarded, the cervix may be so dilated as to allow of version, and one or both thighs may be brought down. Complete dilatation and uterine contraction should then be waited for before delivery, and spontaneous expulsion secured when possible.—*Medical Record*, June 18, 1910.

FRACTURE OF THE PATELLA.

After giving a pretty full description of the types of patella fracture, its etiology, symptoms and diagnosis and prognosis, E. P. Magruder, Washington, D. C., (*Journal A. M. A.*, June 4), discusses its treatment, operative and non-operative, in some detail. He thinks that in absence of a competent surgeon fully equipped for all antiseptic precautions, the non-operative conservative treatment should be the rule. The leg and thigh should be raised to an oblique angle with a well-padded posterier splint, a little wider than the limb, and extending from the hip beyond the heel. Aspiration under antiseptic precautions with elastic compression on the thigh, 10 minutes 3 times a day, are valuable aids. After 5 or 6 days, when the effusion has subsided, with the leg still extended and the quadriceps relaxed, the fragments should be brought into accurate apposition by adhesive straps applied so as to prevent any tilting, and it is advisable to leave this firm and untouched for 6 weeks. A removable plaster mold may be substituted for the splint, allowing of occasional examinations. After 6 weeks the patient may try crutches and gradually move the limb. As regards operative treatment, it gives better functional result and much quicker. The chances for bony union are much greater and there is far less danger of refracture. He finds the oval incision, convexity downward, most satisfactory as allowing better apposition of the fragments and generally better conditions for repair? The subcutaneous operation is nowadays obsolete and the circumferential loop has few followers, as well as the method by which the bony fragments are simply apposed and the suturing confined to the peripatellar tissues. The dangers of the open method under proper precautions are practically *nil*. Proper after-care is essential. In interposition operation is imperative. Wire should never be carried deep enough to penetrate the joint, as it will irritate the cartilage and produce arthritis. Impaired function results from union in faulty position. The combination of the interrupted and reinforced continuous chromic catgut suture is the making of assurance doubly sure. Absolutely accurate coaptation and repair of the accessory extensor aponeuroses are vitally essential, more so in some cases than coaptation and repair of the bone itself. Eminent authorities to the contrary notwithstanding, bony union of a transverse

fracture can certainly be accomplished if the carefully sutured bone is reinforced by a like carefully sutured aponeurosis. If any exposure is made an ample exposure under proper antiseptic precautions is justified. Other things being equal, the oval incision permits the best drainage, if drainage is needed, while it also retains anatomically the best arterial and nerve supply. The suture material, if non-absorbable, should be the smallest consistent with the needs and the chances of pressure necrosis should be reduced to the minimum by complete extension of the limb in the oblique position which insures complete inactivity of the quadriceps. The most progressive surgeons here and in Europe agree that the open method and suture gives the best results.

THE SURGICAL MANAGEMENT OF URETHRAL STRICTURE AND ITS COMPLICATIONS.

Eugene Fuller, of New York, says that urethral stricture consists of round cell infiltration, chronic urinary extravasation, and cicatricial tissue. This view has altered surgical treatment of stricture. False passages are frequent complications, and serious ones, which predisposed the patient to sepsis. The position of the stricture, whether in the anterior or the deep portion of the urethra, is important. Cures of stricture, without resort to the knife, are never permanent, according to the author, unless, as is the case with a great majority of strictures, they are amenable to gradual dilatation. Skillful handling of the urethral instruments is a *sine qua non* in treatment. The author does not **advocate internal urethrotomy** on account of the danger of getting incurvation of the penis as a result. Hemorrhage and extravasation into the sheath of the penis are other dangers, and the curative results as to the stricture are uncertain. External urethrotomy, or urethrotomy with perineal incision, is the preferable procedure. When we have stricture of the deep urethra it is best to make a free longitudinal incision from the posterior base of the scrotum down to the rectal sphincter. The technique of the operation is then considered and the after-treatment of the canal.—*Medical Record*, April 2, 1910.

Therapeutic Suggestions.

ACUTE PHARYNGITIS.

R. Codeine gr. 5
 Ext. catechu gr. 30
 Ext. glycyrrhiza gr. 150

M. Sig. Divide into thirty troches. One every two hours.
 —*Merck's Arch.*

TOBACCO PYROSIS.—Kaller, in the *Berliner klinische Wochenschrift*, December, 1909, prescribes total suppression of tobacco as one of the first measures in the treatment of tobacco pyrosis, or the use of a denicotinized tobacco, if the habit is very compelling. In the way of medicine the following may be prescribed:

R. Atropine sulphate gr. vii;
 Distilled water drachms iiss.
 Dissolve. Sig.: Four drops twice daily after meals.
 The medicine should be stopped when mydriasis supervenes.

RHEUMATISM.

R. Ac. salicyl, pulv.
 Ol. terebinth aa drachm j
 Lanolin ounce j

M. Sig. Use as an ointment, first cleaning the skin with soap and water. Use friction for five minutes.—*Husson, Revue de Therapie.*

WHOOPING COUGH.

Whooping cough can not be aborted by our present means, but it can be greatly mitigated. Belladonna still holds first place, with antipyrin and quinin close seconds. Antipyrin may very advantageously be given per rectum. Fifteen grains three times a day for a child over twelve years old is not too big a dose, with correspondingly smaller doses for smaller children.—*The Doctor.*

MAMMARY INFLAMMATION.

R. Ungt. belladonnae ounce j
 Ungt. hydrargyri
 Ichthyoli aa drachms iv
 Cerati plumbi subacetatis ounce j

M. Sig. Apply to breasts freely and employ tight breast binder.—*Med. News Formulary.*

Orthopedic Suggestions.

Perhaps the patient has flat foot. Think it over and examine the feet before you write a prescription for salicylates for supposed rheumatism.

The characteristic thing about the pain of flat foot is that it may be anywhere in the affected limb. It may be under the arch, around the malleolus, in the calf, in the knee, in the thigh or even the hip.

A burning sensation in the sole is often the chief complaint in some cases of flat foot.

Children should not be taught to turn their toes out when walking. This position puts the foot to a mechanical disadvantage and induces flat foot.

Children should not wear spring heel shoes after the sixth year. Let them have heels. Indiscriminate wearing of corset shoes is bad. They restrict motion and interfere with the development of the unseles.

Plaster of Paris bandages sold in tin cans are usually rolled too tightly and do not work well. Before using them, unwind and re-roll them loosely. This slight trouble will be well repaid.

Shaker flannel or domet is a better bandage material than muslin. It is cheaper, softer and more pliable, adapting itself better to the contour of the part to be bandaged.

When you see a child with beginning lateral curvature do not tell the parents that it is merely a bad habit and the child will outgrow it. Valuable time is lost thereby and the chances for the cure will increase without treatment.

There is only one deformity of the bones that is cured spontaneously and that is bow legs. And even this only applies to moderate cases in very young children. The mother can be taught to manipulate the legs daily, thus hastening the cure.

Many a patient is permanently crippled after a Potts fracture because the toes have been allowed to drop or the foot everted while applying the retention splint.

Elastic knee bandages do much damage when worn too long; as they usually are. Patients should be warned about this. If the elastic bandage has not accomplished its purpose in two months it never will.—*Medical Review of Reviews.*

News Items.

The American Medical Association met in St. Louis June 7-10. Dr. J. B. Murphy, of Chicago, was elected president. The elections of Dr. E. Montgomery, of Philadelphia; Dr. R. C. Coffee, of Portland, Ore.; Dr. W. G. Moore, of St. Louis, and Dr. H. L. E. Johnson, of Washington, D. C., to the four vice-presidencies, in the order named, were unanimous. Dr. G. H. Simmons, who resigned as Secretary was unanimously reelected to that office. Dr. Frank Billings was reelected treasurer.

The following trustees were elected: Dr. W. W. Grant, of Denver; Dr. F. J. Lutz, of St. Louis and Dr. C. Cantrell, of Greenville, Texas.

Dr. J. N. McCormack of Bowling Green, Ky., was appointed by the president a member of the Council on Health and Publicity.

The following attended the session from Louisville: Drs. R. A. Bate, W. F. Boggess, M. Casper, F. W. Fleischaker, J. G. Hall, John Edwin Hays, G. S. Hanes, G. A. Hendon, E. E. Henderson, Lee Kahn, L. S. McMurty, J. M. Mathews, S. J. Meyers, B. J. O'Connor, Otto O'Bryan, O. A. Pfingst, J. M. Ray, H. E. Tuley, J. R. Wathen, W. H. Wathen, D. S. Wilson and J. T. Windell.

Dr. F. L. Cessna and Dr. J. B. Schacklette, have been absolved of the charge of criminal conspiracy. Judge James P. Gregory in the Criminal Court gave the jury peremptory instruction to acquit them.

For several months their names have been connected with an alleged attempt to defraud the Louisville Railway Company and the Fidelity and Casualty Company. It was alleged that they were to profit by making it appear that Arch Tyler, of Highland Park, had suffered a broken leg in a fall from a street car on December 27 last.

Anti-opium law sustained—Judge Gregory, in an opinion handed down June 4, upheld the statute prescribing the sale of opium under certain conditions. He also held H. Katzman, a druggist, guilty of violating the law and assessed a fine of \$100. The case was brought to test the statute.

Dr. L. P. Spears was on June 4 appointed jail physician to succeed Dr. Samuel H. Garvin, who recently tendered his resignation to Judge Muir Weissinger after thirty-three years' service.

The Louisville Society of Medicine gave its banquet to the members, their wives and friends, June 2, at the Galt House. Fifty covers were spread. Dr. John D. Hamilton, the President of the Society, acted as toastmaster.

The Louisville Academy of Medicine met at the Tavern Club, May 30, and decided to resume their monthly scientific sessions on the second Thursday (evening) of each month.

Dr. W. Edward Grant, of Louisville, was elected one of the vice-presidents of the American Association of Insurance Examiners which met at St. Louis, June 6 and 7.

Dr. J. N. McCormack, of Bowling Green, Ky., by invitation of Congressman J. S. Simmons, delivered an address at a dinner given by the Board of Trade of North Tonawanda, N. Y., May 23, on the "Purification of the water of the Niagara River."

Dr. Harry Woodard, of Louisville, and Dr. William Dudley, of Lexington, left June 12 for Europe, where they will remain several months.

Dr. F. C. and Lillian Askenstedt have returned from Mammoth Cave.

Dr. Henry E. Tuley left June 14, with his family to spend the summer abroad.

Dr. James B. Bullitt, of Oxford, Miss., was in the city a few days visiting his mother, Mrs. Thomas Bullitt.

Dr. and Mrs. W. M. Watkins, of New Castle, Ky., have moved to make their future home in Louisville.

Dr. Frank Simpson has gone to Bardstown, Ky., to be with his father who is seriously ill.

Dr. and Mrs. Edward Grant, of Boone county, are the guests of Dr. and Mrs. Horace H. Grant.

Dr. G. O. Wilson, of Frankfort, and Dr. J. W. Jewett, of Eminence, have been visiting Dr. W. S. Smith, in Anchorage.

Dr. and Mrs. Sam Fryer, of Okolona, were guests of Mr. and Mrs. Bryant Williams, at Fern Creek.

Dr. and Mrs. Louis Frank attended the graduation of their son, Wallace from Central University, at Danville, Ky.

Dr. Gardner, of Hopkinsville, has been visiting in Pewee Valley.

Dr. D. M. Harrison and family of Madison, are visiting in Trenton, Ky.

Dr. C. E. McElwain has returned to Beechmont from a week's visit to Memphis.

Dr. and Mrs. John T. Foster, of New Albany, have gone to Frankfort on a visit.

Dr. Roy Robinson, of Hopkinsville, is in the city for the week with friends.

Dr. W. F. Waltz, of Lexington, has returned home after spending a few days with Prof. and Mrs. F. J. Waltz, in Castlewood.

Dr. J. A. O'Meara left June 1, for his home, Oxford, England, after a visit to his mother, Mrs. M. L. O'Meara, of Portland.

Dr. E. P. Easley has returned to New Albany from Price, Utah, where he had been visiting his son, Dr. Bruce Easley.

Dr. W. L. Rodman, formerly of Louisville, now of Philadelphia, has been the guest of Dr. and Mrs. H. N. Leavell.

Dr. Raymond Boone and Mrs. Boone, who were married in Bardstown, have returned to their home in Cloverport.

Dr. Clint Kelly, Jr., who has been visiting his parents, Dr. C. W. Kelly and Mrs. Kelly, has returned to Lexington.

Dr. and Mrs. M. F. Coomes have returned after a short visit to Richmond, Va.

Dr. Wm. E. Ehrich, formerly of Louisville, now of Evansville, Ind., was in the city a few days.

Dr. and Mrs. James S. Lutz, have returned from a brief stay in Charlestown, Ind.

Dr. and Mrs. Sam Cochran have moved to their country home at Standford Deer Park, for the summer.

Dr. and Mrs. F. P. Ogden have been visiting in Oakdale.

Dr. Ben McCloskey and Mrs. McCloskey have returned from a visit to Taylorsville.

Dr. Frank Boyd, of Paducah, spent several days in Louisville.

Dr. and Mrs. W. Powers, who have been visiting in Louisville, have returned to Mt. Washington.

Dr. Wayne Crum, of Jeffersonville, was graduated from the Army Medical School at Washington, and will proceed at once to Fort Madison, Watertown, N. Y., to begin his duties as Army Surgeon with the rank of first lieutenant.

Dr. A. C. Overall, who has been in New York for two months is back in Mt. Washington.

Dr. and Mrs. T. N. Lindle, of Sturgis, have been spending several days in St. Louis.

Dr. Boyd Master, of Lyons, Ky., was the guest of his mother Mrs. George Muster, in Jeffersontown.

Dr. George Dash, of New Albany, has returned from Cincinnati, where he has been taking a post-graduate course at the Ohio Medical College.

Dr. Seth Conway and Mrs. Conway, of Sharpsburg, are visiting relatives at Poplar Plains.

Dr. and Mrs. J. W. Mathews, of Lexington, are guests of Mr. and Mrs. Joe Turner, in Eminence.

Dr. J. H. Floore, of Chaplain, visited relatives in Jeffersontown.

Dr. George F. Simpson has returned from a visit to Bowling Green, Ky.

MARRIAGES.

Dr. Louis W. Haskell, Jr., Memphis, Tenn., to Miss Robin Hamilton, at Mount Sterling, Ky., June 1.

Dr. Edward C. Redmond to Miss Mary Arnold in Louisville, June 8.

Dr. Gustave G. Altman, formerly of Louisville, to Miss Estelle Newman, in Helena, Ark., June 7.

DEATHS.

Dr. John Thomas Richter, Louisville, Ky., was struck by a street car, June 1, and instantly killed, aged 30 years.

Dr. W. A. Boyd died at the home of his daughter in Mayfield, Ky., May 31, from cerebral hemorrhage, aged 78 years.

Dr. T. H. Daugherty, died at his home in Georgetown, Ky., May 19, from heart disease, aged 63 years.

Dr. H. B. Duncan, of Williamsburg, Ky., died in Louisville, May 2, aged 72 years.

Dr. A. D. James died at Penrod, Ky., June 7, aged 60 years.

Dr. Robert Koch, died in Baden-Baden, Germany, May 27, aged 66 years.

Dr. Emil Zuckerhandl, died in Vienna, Austria, aged 61 years.

THE TREATMENT OF ABORTION.

In concluding a very complete and comprehensive article, Stowe calls particular attention to the following points in the treatment of abortion:

1. The importance of treating all cases of uterine haemorrhage accompanied by intermittent pelvic pain in a woman of child-bearing age as acute abortion.

2. The value of absolute rest in bed in the treatment of threatened abortion until all pain and bleeding have ceased.

3. The necessity of saving as much blood as possible to avoid a long period of anaemia and prostration.

4. The selection of cotton pledgets in lieu of gauze strips as a material for vaginal tamponage.

5. The use of finger curettement and manual removal of the uterine contents wherever possible.

6. The performance of Hoening's abdomino-vaginal compression when the conditions are present.

7. The difficulty of complete sterilization of laminaria tents.

8. The danger of perforation of the uterus with steel dilators and sounds.

9. The great danger of uterine perforation with the steel curette in acute abortion and the value of the instrument in chronic abortion.

10. Curettement should be raised to the dignity and seriousness of a surgical operation and should be performed under the same surroundings and with the necessary equipment.

11. The importance of refraining from curetting after the complete emptying of the uterus.

12. The use of ergot after the uterus is empty.

13. Local interference in septic abortion when the infection is limited to the uterine cavity. Less tendency to interfere when the adnexa or peritoneum are involved in the septic process--*Surgery Gynecology and Obstetrics*.

THE USE OF ATROPHINE IN DIABETES.

J. Rudisch, in a preliminary report strongly recommends the use of atropine, especially in the form of the methyl bromide, in the treatment of diabetes. He has used the drug in a series of cases and finds that the carbohydrate tolerance is decidedly increased.—*Medical Record*, June 26, 1909.

ACKNOWLEDGMENTS.

THE TEST DIET IN INTESTINAL DISEASES; by Prof. Dr. Adolf Schmidt, Translated from the second revised and enlarged German edition by Charles Aaron, M.D. Cloth, pages 126, illustrated. F. A. Davis Company Publishers, Philadelphia. Price \$1.50.

ESSENTIALS OF LABORATORY DIAGNOSIS; by Francis Ashley Faught, M.D. Second Revised Edition. Cloth, pages 336, illustrated. F. A. Davis Company, Publishers, Philadelphia, Price \$2.00

THE ACTION OF SODIUM BENZOATE AND BENZOIC ACID ON THE HUMAN ORGANISM; by C. A. Herter, M.D. Paper, pages 18.

THE BIOLOGICAL TREATMENT OF TUBERCULOSIS AS CONDUCTED BY THE DEPARTMENT. Pennsylvania Health Bulletin.

CONSERVATION OF HUMAN LIFE IN PENNSYLVANIA. Pennsylvania Health Bulletin.

MORTALITY STATISTICS, 1908. Reports of the Census Office. Department of Commerce and Labor.

INTERNATIONAL CLINICS, A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES; Edited by Henry W. Cattell, A.M., M.D., Vol. ii. Twentieth Series, 1910. Cloth, pages 304. J. B. Lippincott Company, Publishers, Philadelphia and London.

AMERICAN PRACTICE OF SURGERY: A complete system of the Science and Art of Surgery, by representative surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., L. L. D., and Albert H. Buck, M.D. of New York City. Complete in Eight Volumes. Profusely illustrated, Volume VII. William Wood & Co., Publishers, New York.

THE NEW PSYCHOLOGY: Its basic principles and practical formulas, by A. A. Lindsay, M.D. Eugene and Arthur Lindsay, Publishers, Portland, Oregon.

DIRECTORY OF LOUISVILLE MEDICAL SOCIETIES.

(FOR JULY.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton." (Does not meet this month.)

DR. E. S. ALLEN	-----	<i>President</i>
DR. S. D. WETHERBY	-----	} <i>Vice Presidents</i>
DR. M. F. COOMRS	-----	
DR. CURRAN POPE	-----	<i>Treasurer</i>
DR. DUNNING S. WILSON	-----	<i>Secretary</i>

LOUISVILLE ACADEMY OF MEDICINE; meets at the Tavern Club, July 14.

DR. DUNNING S. WILSON	-----	<i>President</i>
DR. E. O. WITHERSPOON	-----	<i>Vice President</i>
DR. CHARLES FARMER	-----	<i>Treasurer</i>
DR. DAVID C. MORTON	-----	<i>Secretary</i>

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, July 5 and 19.

DR. JOSEPH W. IRWIN	-----	<i>President</i>
DR. ARGUS D. WILLMOTH	-----	<i>Treasurer</i>
DR. H. J. FARBACH	-----	<i>Secretary</i>

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House, July 7.

DR. J. D. HAMILTON	-----	<i>President</i>
DR. R. A. BATE	-----	<i>Vice President</i>
DR. RICHARD T. YOE	-----	<i>Treasurer</i>
DR. W. O. GREEN	-----	<i>Secretary</i>

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club. (Does not meet this month.)

DR. L. P. SPEARS	-----	<i>President</i>
DR. CHAS. W. HIBBITT	-----	<i>Treasurer</i>
DR. EDWIN T. BRUCE	-----	<i>Secretary</i>

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, July 1 and 15.

DR. J. GARLAND SHERRILL	-----	<i>President</i>
DR. J. ROWAN MORRISON	-----	<i>Vice President</i>
DR. FRANK C. SIMPSON	-----	<i>Secretary and Treasurer</i>

WEST END MEDICAL SOCIETY; meets at the Old Inn, July 12.

DR. I. A. ARNOLD	-----	<i>President</i>
DR. H. L. READ	-----	<i>Vice President</i>
DR. JOHN K. FREEMAN	-----	<i>Secretary and Treasurer</i>

CENTRAL KENTUCKY MEDICAL SOCIETY; meets at Lancaster, Ky., July 21, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets at Elizabethtown, Ky., August 11, 1910.

EAGLE VALLEY MEDICAL SOCIETY; meets at Sanders, Ky., August 17, 1910.

KENTUCKY STATE MEDICAL ASSOCIATION; meets at Lexington, Ky., September 27-29, 1910.

AMERICAN MEDICAL ASSOCIATION; meets at Los Angeles, Cal., 1911.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a down-right fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., AUG, 1910.

No. 8.

Editorials.

PRIVILEGED COMMUNICATIONS.

"No attorney shall testify concerning a communication made to him in his professional character by his client, or his advice thereon, without the client's consent; nor shall a clergyman or priest testify concerning any confession made to him in his professional character, in the course of discipline enjoined by the church to which he belongs, without the consent of the person confessing."

We have quoted from the Civil Code of Kentucky to call attention to a fact not commonly known to the profession, that in this State there is no law privileging a physician on the witness stand from disclosing confidential communication entrusted to him in a professional way by his patient. Why this distinction? Surely the secrets of the sick room should be kept as inviolate as those of the confessional or the disclosures to an attorney.

From time out of mind the law has, upon the grounds of public policy, regarded certain matters sacred and has accordingly protected from disclosure state secrets, consultations of judges, communications of a confidential nature between husband and wife, and communications between counsel and client. Although there is no relationship in life where a higher degree of confidence should exist than between patient and physician, yet at common law the physician does not stand in the same relation to such confidences as the lawyer does to his client. Are the secrets disclosed to the physician to enable him to act rightly where life is frequently involved of less import than the disclosures to the priest for spiritual solace, or to the attorney for protection against temporal annoyance?

The medical profession has always maintained the policy of secrecy in such matters and though the Hippocratic Oath enjoining it is binding, it has no legal strength and in States where such communications are not privileged the physician may be compelled to divulge in evidence the confidence of his patient.

Where the law exists it is not intended as a defense for the physician but a protection to the patient—the patient is privileged, the physician as a witness is disqualified.

There is no reason why a like statute should not be enacted in this State. The meeting next month of the Kentucky State Medical Association offers the profession a splendid opportunity to earnestly recommend to the next Legislature the enactment of a statute extending to medical confidences a privilege analogous to that already conferred upon legal and clerical communications.

Let our legislators be urged to remedy this defect in the Kentucky law and prevent the disclosure of delicate and confidential matters which may humiliate the patient in his life-time or disgrace his memory when dead. Let them, by statute, close the door of the sick room as securely as that of the confessional or that of the jury room, that a patient may then consult his physician in safety knowing that his lips are locked by the law and that he himself holds the key.

Original Articles

ACIDOSIS.*

BY PHILIP F. BARBOUR, A.M., M.D.,

Professor of Pediatrics in the University of Louisville.

The problems of biophysics are of perennial interest to us because of the fundamental character of its phenomena. Its laws are ever presenting new phases to us as our knowledge in other fields is advanced and as correlated phenomena are revealed to us. The chemistry of the biologic force is gradually yielding its secrets and pointing to new fields of surprising extent and interest. Among the basal chemical laws there is no one that has more extensive relationships than the phenomena of reaction. Acidity, alkalinity, and their union to result in neutrality or stability underlie all chemical action and reaction. They are dominant forces in life processes and decide for health or disease, for life or death. The merest tyro in chemistry can decide whether a given substance is acid or alkaline. The intricacies of the problems into which they enter have not and will never be fully solved by the finite mind.

The reaction of many of the secretions and excretions of the body has been known for many decades; the alkalinity of the blood was supposed to depend upon a few well known salts and was apparently so simple as to require very little investigation, but the study of hematology has opened up a field of investigation which is of the greatest interest and of the most practical benefit in understanding some of the more recondite and obscure of the chemical processes which underlie the life processes. In fact our knowledge of many of the more complicated diseases is being re-written in the light of newer discoveries of the laws of chemistry as influenced by the dynamic influence of the living cell. There are wonderful potentialities in this living cell, which out of all the food products selects and arranges its reactions so as to produce its acid or alkali as it wishes and in spite of adverse

*Read before the Louisville Clinical Society.

substances is able to maintain its general alkalinity and so preserve its own life and maintain its own continuance; but when that control is lost, when the living cells cannot maintain that alkalinity then various disease processes are started which will in the end destroy the cells. The quantitative range of alkalinity is small and nature soon shows in unmistakable terms that something is wrong when the acidity is increasing. The symptomatology has been multiform, varied and misleading. We can compress into one etiologic factor—acidosis—the explanation for this very heterogeneous array of diseases which agree also in one other phenomenon their intrinsic danger when not recognized. The subject of acidosis is too large to be compassed in the brief paper which I present so that only certain practical phases will be recalled to you to-night.

The term acidosis will be used to cover the idea of the increased amount of acid in the system, amounts which the normal metabolic changes are not sufficient to care for. It seems to be conceded by most internists that such increased acidity will be accompanied by some symptoms which will vary definitely according to the particular tendencies of the patient. In the pregnant woman for instance we look for pernicious vomiting, in the child for cyclic vomiting, in the Jewish race for diabetes and so for a number of syndromes of great complexity. The phenomena are of especial interest in children because they occur in many forms whose relationship to the underlying acidosis is not so readily appreciated. One phase has however, gradually been emerging from the chaos and one can now begin to understand the alarming and sometimes fatal complex of faulty fat metabolism.

When a fat is ingested and passed through the stomach it has been separated from the proteids so that the secretions, with which it meets in the intestinal canal, may exert their katalytic action upon the fat molecule. The fat is partly saponified, partly emulsified but before its absorption can take place it must be decomposed into fatty acids and glycerin. Some of these free fatty acids are carried through the bowel and eliminated as such. Some of the acid radicals are united with the fixed al-

kalies of the intestinal juices to form soaps which may also in part be eliminated by the bowel. The rest of these soaps and the fat acids are by some peculiar and unknown physiological process recombined in the cells of the villi to form fats again but thenceforth the fat changes marvelously in its nature so as to be soluble in water but not in ether. Its further physiological progress is not as yet determined. But we have reason to believe that a fuller knowledge here would clear up many illy understood phenomena of disease. The utilization of that fat molecule in the metabolism of tissue is of absorbing interest.

When fat is completely burned up in the body it is eliminated as carbon dioxide and water. When it fails of complete oxidation then there will arise certain decomposition products which are abnormal and deleterious to the body. Of these the most familiar are beta-oxybutyric acid, diacetic acid and acetone. These compounds have become familiar to us through the investigations into the phenomena of diabetes. Now when these acids have accumulated to a certain degree, resulting in the reduction of the alkalinity of the blood to a morbid extent, the well known coma will appear. We know of the existence of these acids and we can also foretell the results when they have accumulated to a dangerous degree in the blood. There may be other katabolic products which are not as yet recognizable by our present methods that may exceed even these in toxicity. There are other ways in which acids may be generated which will be briefly alluded to in the latter part of the paper.

The acids having been formed must be neutralized by the bases which nature has at her disposal. One of the resources is the cation reserve in the bowel. The alkalinity of the *succus entericus* is made up of sodium and calcium salts particularly. We find in the stools of children on a too rich fat diet masses of curds which are made up of neutral soaps as well as of the fat themselves. This withdrawal of the lime salts is undoubtedly of serious import to the metabolic processes although it has not as yet attracted any attention. Grave nutritional disorders probably lie that way. However we are more

interested just now in the fate of those acids which are generated *intra vitam* and which must be met by other means which nature has at hand. When the banking reserve of the alkalinity of the tissues as found in the inter-cellular juices of which lime phosphate comprises so large a part, has been exhausted nature calls upon the proteid and forms alkali out of the proteid which has been metabolized either into serum albumin or other form of albumin. The kinetic energy has been wasted and the potential energy not utilized. The ammonia needed to neutralize this acid is eliminated by the kidneys and the urine is rendered strongly alkaline but with volatile alkali. When the diapers of the child then smell strongly of ammonia it is good evidence of the child's having been overfed with fatty or other foods. Stuffing the child with food tends to defeat its own object by thus **using up the proteid compound** which nature has built up at such an expense of energy.

Let us now discuss for a few moments the other origins of acid. The administration of the inorganic acids for any length of time will be followed by symptoms of acid intoxication. Such acids also arise from the combustion of the proteid molecule for almost all the nitrogenous foods contain sulphur and phosphorus which finally form their respective acids. But such sources are fairly negligible. Another source of acid which appears at first to be very important is the intestinal canal itself but it seems that the defensive forces of nature handles such acids very easily, though other putrefactive and poisonous radicales are not so readily neutralized.

More important than these is the metabolism of the protein into an acid. Since organic chemistry has solved to some extent the molecular formation of the proteins, we understand that the complex protein molecule is made up of a number of simpler molecules which are in general amino-acid groups which, however, at times may be more alkaline from a strong amino radicle and again more acid. These amino-acids can be oxidized to beta-oxy-butyric acid and into acetone and thus show a certain kinship to the fat acids, for both may be reduced to a

fatty acid of the butyric acid type. A curious dissonance may be observed here. In general one may say that fats and proteins are ketogenic, that is tend to form acetone. There are also ketoplastic substances which, without taking part themselves in the formation of the acetones do increase the elimination of that substance. Now along with these we find a series of compounds which are directly antagonistic to these tendencies; for instance, fatty acids such as oleic particularly tend to form ketone but they are united with glycerin which is so opposite in action as to make it doubtful at times if the fats will produce ketone at all.

Among the proteids which tend to prevent the formation of the acetone compounds casein stands first. There is in this a remarkable provision of nature, for the young child is particularly prone to the formation of these acid states because its physiologic condition is unstable and it would not be able to cope with great perversions of metabolism. Nature has also erected another safeguard in the fact that amongst the most important and potent anti-ketogenic substances are the carbohydrates, which form so large a part of a baby's diet. This is a rather surprising fact for all recognize how frequently the carbohydrates undergo an acid fermentation in the intestine. In children it is often necessary to administer various alkalies to neutralize these acids in the bowel which are irritant to the mucosa and at times so acrid as to inflame or excoriate the buttocks. As stated before however, the fermentation acids are easily handled; it is those acids which are formed within the body which give the trouble. The safeguard of the baby is the carbohydrates which are found so abundantly in its diet. The capacity of the sugars to antidote the acidosis of starvation is most important to notice. It has probably saved many a baby's life for it is so often necessary to feed the baby on barley water for some time, that is on a starvation diet, and serious symptoms would have developed if nature were not able to handle the condition by this peculiarity of the carbohydrates.

In deciding how the acidosis can injure the body we are at a loss. There are several hypotheses. The acido-

sis may act from the acidity itself. It may act by removing the alkali, the supply of which is limited in the body. The acids may be toxic in themselves. Physiologists tell us that the oxidation of the albuminous molecule takes place in the body only when the tissues are alkaline and the utilization of the oxygen and the elimination of the carbon-dioxide depend upon that alkalinity.

Cyclic vomiting is the most pronounced syndrome acidosis in children. Here there seems to be an accumulation of acid products until the system can stand no more and then there is an explosion of vomiting of highly acid material and even in the urine and the perspiration an elimination of the acid until the normal alkalinity has been attained. Various comatose conditions such as eclampsia puerperalis, diabetic, and others have been shown to have this acidity, though no one claims that acidosis is the full explanation of all the phenomena. It is however, most important for us to remember something of these newer hypotheses for they must inevitably open up to us new fields for investigation, new explanations of phenomena observed, and practical points in relieving syndromes which heretofore have followed their own course without hindrance on our part because we did not know what was wrong.

SOME NOTES ON THE UTILITY OF MULTIPLE TRACINGS IN THE CLINICAL DIAGNOSIS AND TREATMENT OF CARDIAC DISEASE.*

BY WM. N. BERKELEY, A.B., Ph.B., M.D.,

*Attending Physician at the Good Samaritan Dispensary,
New York.*

The recent popularity of the study of cardiac action by multiple tracings is not a fad. There seems no doubt that "multiple tracings have come to stay." While of course percussion and auscultation will continue to be of the first importance, it is not unlikely that ere long every practitioner who cares for the welfare of his patients will

*Written for this Journal.

find it needful to learn the new physiology of the heart and the use of the polygraph; and in all important cases carefully to control his diagnosis, prognosis, and treatment by reference to the tracing ribbon.

The details of the new cardiac physiology cannot be entered upon here. They are now accessible *in extenso* in several excellent text-books (1, 2, 3) in English and German, and in many recent articles in the medical journals (4, 5, 6). This paper is meant to be only a brief answer to the natural questions one first hears from intelligent medical men,—How much time is required to understand the new methods?—What is the approximate cost?—What is the practical value of the knowledge thus obtained?

In answer to the first question, I should say that the new text-books may be mastered (exclusive of the laboratory work) by any well-trained physician in a few weeks, and that facility with all but the electric cardiograph may be acquired in a few weeks more. It takes about as much time and patience to make and interpret tracings from an ordinary polygraph as to learn how to count blood cells with the microscope. The chief difficulty with beginners in the use of the polygraph is with the venous pulse. This is often rather hard to pick up with the funnel in the neck, and sometimes quite inaccessible. The inaccessibility may be due to a venous anomaly, to a great quantity of fat and muscle in the neck, to uncontrollable respiratory efforts, spasm of the platysma or sterno-mastoid, nervousness of the patient, or enlargement of the thyroid. In most instances a little patience will prevail, and after large experience with many patients over a long period of time, one can get a satisfactory venous pulse in more than 80 per cent. of his cardiac patients.

As to the cost, Jaquet's Sphymocardiograph costs in this country \$125.00. Uskoff's Sphymotonograph, which registers the blood-pressure at the same time, costs about the same. Mackenzie's Ink Polygraph costs about \$75.00 (duty paid,—ten guineas in London). My own little polygraph, made from an ordinary alarm clock (7), costs \$12.00. All the above instruments but the last may

be gotten from any of the large dealers in medical supplies. My own instrument is for sale by James T. Dougherty, 409 West 59th Street, New York. When manipulated properly, any of them will give satisfactory clinical records. Full directions are sent with the instruments at the time of their purchase.

The question of cost in respect of the large electric cardiograph made in Germany by Dr. Edelmann is more serious, running into the thousands of dollars. This instrument can be set up only by an expert electrician, and its use will doubtless be confined for a long time to come to centrally located and well endowed laboratories. Patients, however, able to visit such laboratories can get records made for about the same sum it now costs to make a good X-ray plate.

In reply to the third question, What is the information worth? it may be safely said that the new studies have thrown a wonderful light upon many obscure cardiac conditions, and that the possibilities of further knowledge are limitless. The *condition of the myocardium* is the *crux* before which all the heretofore current methods of physical diagnosis fail, and it is precisely upon the condition of the myocardium that the new methods give most information.

Only a few suggestions as to the direction and value of the new studies can be given here. Some portion of the new theory is still under discussion. Some of it will undoubtedly be revised and restated in other ways when more clinical and experimental data are collected. But in regard to the questions taken up in this paper a fair measure of certainty may be positively claimed.

I shall mention,—in their practical aspect only,—

Conductivity of the cardiac muscle, and Irregularities of cardiac action.

Regarding conductivity, James Mackenzie has suggested a simple and practical method of determining the time taken by a cardiac contraction in the following way: Admitting that the stimulus to contraction begins at the sinus of the right auricle, and that the *a* wave in the

venous tracing marks the beginning and the *c* wave the end of the systole, we have only to note the lapse of time between the beginnings of these two waves to find the answer to our question. In hearts beating 60 to 80 per second this time is normally about one fifth of a second (two millimeters on the slip from my instrument). If this period be much lengthened, we are compelled to assume that conductivity is impaired,—either in the cardiac muscle generally, or in the node and bundle of His.

In cases of such delay the practical inferences are at once of great clinical value. The cardiac muscle is either poisoned directly by toxins or drugs, or is in a state of acute inflammation, or chronic fibrosis. In such cases it appears that digitalis may do serious harm, and is contraindicated. If the conductivity of the *a-v* node is so seriously impaired that some of the auricular contractions fail altogether to reach the ventricle, we have a greater or less serious degree of heart-block, and in such a case as this, digitalis may precipitate the patient's death.

It may be incidentally remarked that the whole subject of the effect of drugs upon the conductivity of the heart will have to be studied anew, and it is quite within the limits of probability that within the next few years diligent students of the polygraph will bring to light many new facts of the greatest practical value not only in respect of digitalis and strophanthus, but of many other drugs. This field is one of great promise, and is open to careful students everywhere who are possessed of a good polygraph.

In regard to cardiac irregularities the new classification of Mackenzie replaces the vague names and futile guess-work of the past with facts largely demonstrable beyond cavil, and of tremendous clinical importance.

Briefly, Mackenzie's classification is as follows:

Sinus irregularities.

Pulsus alternans.

Extrasystoles.

Defective conductivity (already touched upon above).

Nodal rhythm.

Of these five classes the last is still questionable, and

awaits further elucidation, but the first four are on a safe basis of experiment.

Sinus arrhythmias are due to nervous ("chronotropic") influences acting at the sinus, and discharging tardily or prematurely the normally rhythmic sinus stimulus. They are usually marked by diastolic prolongation, are more common in the young, and are almost purely "functional." The prognosis is good, and the treatment need be only symptomatic. Respiratory variations in the pulse rate usually belong here.

Pulsus alternans occurs when the contractility of the cardiac muscle is depressed. It is a rare condition. One contraction so exhausts the myocardium that the next stimulus fails to evoke the full contractile power of the heart. But this feeble contraction allows a certain amount of physiological repose, new stimulus-stuff is built up in the muscle, and the next beat is again strong. Thus a succession of strong and weak beats occurs. The condition is a curious one, and so rare that it has not been possible to study it exhaustively. It persists in certain patients for a few hours, for days, or for weeks. Digitalis produces the same results when imprudently administered.

Extrasystoles. This is a very common phenomenon, and a vast literature has accumulated upon it. An exhaustive definition is rather hard to give, but we may say, in a general way, that an extrasystole is a premature beat of the auricle or the ventricle, or both,—set off independently of the sinus rhythm and starting in some part of the heart more or less remote from the sinus. In many instances the extrasystole may be experimentally shown to proceed from the remnants of the foetal sinus venosus. It seems likely that all so originate. Ventricular extrasystoles as a rule make no impression on the auricle, but auricular extrasystoles are usually conducted to the ventricle. Besides ventricular and auricular extrasystoles there is probably a nodal extrasystole also. Most extrasystoles leave the cardiac muscle refractory at the time the next following sinus-stimulus occurs, and the pulse at the wrist falls out. In the old phraseology the pulse "intermits." Sometimes the extrasystole oc-

comes early enough in the cycle to allow time for the refractory period to pass before the next sinus-stimulus is discharged. We then get an "interpolated" extrasystole, but this is rare. If the extrasystole is not strong enough to open the aortic valves, there is simply a still longer pause in the pulse. But the sequence of events in the heart can still be recognized with the polygraph, or even by listening with the stethoscope at the apex, if the listener knows what to listen for.

Many curious and interesting sub-varieties of extrasystole may be diagnosed with the electric cardiograph, but the common types can be easily identified upon the regular tracing slip, and this is quite enough for the clinician.

Extrasystoles are extremely rare before the 20th year; they are much more common after the fortieth year, and are apt to be associated with valvular disease, arteriosclerosis, and high blood pressure. At the same time they are often observed in apparently sound hearts. They are more common when the patient reclines, though there are many exceptions to this rule. In a heart showing no other signs of disease they are not of special significance, and should not be a bar to life-insurance. Many patients with extrasystoles starting at 40 are still alive and well at 70 years. The treatment is symptomatic, and the patient should ordinarily be reassured.

Nodal rhythm. This term was proposed by Mackenzie some years ago to designate cases of extreme and permanent irregularity in which the venous pulse is synchronous with the arterial pulse. Various names have been applied to this venous pulse,—"positive," "ventricular," and "systolic." Mackenzie has had two theories about it. The later one is that the sinus-rhythm is entirely abolished, and that the cardiac systole starts at the a-v node of His, in the middle of the heart, and proceeds thence upward to the base, and downward to the apex of the heart, so that the auricles and ventricles contract at, or almost at, the same moment. The condition requires further study. Thomas Lewis (4), of London, from recent exhaustive studies with the electric cardiograph, concludes that the condition is really one of

“auricular fibrillation”; that is, that the auricular muscle-bundles have become unduly irritable, and that of a number of rapid and feeble fibrillary contractions which they are constantly making, only one wave, now and then, at very irregular intervals, gets through the bundle of His and affects the ventricles. As the right auricle is dilated and ineffectual, the systolic impulse of the right ventricle easily regurgitates and is directly transmitted to the jugular.

Whatever be the ultimate explanation of this irregularity it is already proved clinically that when it appears, the prognosis is of greater ultimate gravity than before, and the treatment nevertheless, for the time, much more satisfactory; for this is the heart in which digitalis acts as a specific. It does not abolish the uneven rhythm; it may even exaggerate it. But the cardiac action is slowed, the dropsy, dyspnoea, cyanosis, and insomnia are rapidly relieved, and if the patient has no cardiac pneumonia, nephritis, or other hopeless complication, and can be persuaded to rest and to partake of properly selected food, he often gets upon his feet again and returns to work. Mackenzie recommends that digitalis be pushed in these cases till the curious and familiar sign of “coupled beats” at the apex appears. The drug is then continued in just sufficient quantity to maintain the “ventricular bigeminy.”

36 East 53rd Street.

AUTHORITIES.

1. *Diseases of the Heart.* James Mackenzie, Oxford University Publications. 1909.
2. *Graphic Methods in the Study of Cardiac Disease.* John Hay, Oxford University Publications. 1909.
3. *Die Arrhythmien der Herzens.* Wenckebach. 1906. (Also the English Translation of the same book, by Snowball.)
4. *Heart.* Edited by Thomas Lewis. London, 1910.
5. *American Journal of Medical Sciences.* Numerous authors. Several recent volumes.
6. *Old Dominion Journal of Medicine and Surgery.* Berkeley. April, 1910.
7. *Medical Record.* January 22, 1910. Berkeley.

DIAGNOSIS OF UPPER RIGHT QUADRANT DISEASE WITH REPORT OF A CASE OF PERFORATING DUODENAL ULCER AND A CASE OF GASTRIC BILIARY FISTULA.*

BY LOUIS FRANK, M.D.,

*Professor of Abdominal and Pelvic Surgery,
University of Louisville, Louisville, Ky.*

Though in many instances the diagnosis of disease of the upper right quadrant can be made with a fair degree of certainty, there are, not infrequently cases in which without prolonged observation and a very accurate history or personal familiarity with the case from the very beginning a precise diagnosis is well nigh impossible. The indications for operation may to the trained surgeon, on the other hand be quite clear and even to the unskilled, are in the absence of certainty as to the precise pathology, not infrequently imperative.

Primary operative fatalities in abdominal surgery increase in a ratio proportionate to the delay in offering surgical aid and in such diseases as carcinoma this is more than ever accentuated by the small percentage of ultimate cures. The close relationship, anatomic and physiologic, existing between the organs of the upper right quadrant of the abdomen, all of which are concerned in the processes of digestion and all of which have the same embryologic origin renders the symptom-complex produced by disease of these organs more or less similar in character and equally more or less difficult exact differentiation. Characteristic or pathognomonic signs are lacking and this with natural compensation, anatomic location, insidious and silent progress of most of the lesions of these organs demands early operative interference if we are to obtain the greatest relief with least risk to the patient either primarily or remotely. Oft-times when the surgeon is consulted the case is incurable or inoperable. This is most notably true in

*Written for this Journal.

gastric carcinoma, as unfortunately the text books have heretofore described as disease symptoms those indicative of the rapidly approaching dissolution of the patient. So with gall bladder disease, to which viscus many have closed their eyes that they might see gall-stones only after common duct obstruction has occurred. The necessity for recognition before this occurs is plainly evident in view of the mortality rate in surgery of duct stones as compared with gall bladder calculi.

As a valuable aid in diagnosis in this connection accurate history taking and careful study of the same have been much neglected as has also the import of digestive disturbances. The milder the disturbances the greater is the tendency to ignore them. Too much stress has been placed upon jaundice as a diagnostic aid in gall bladder disease and upon hemorrhage in lesions of the stomach and upper duodenum. Outside of the hospital and the laboratory of the specialists occult blood in the stool is entirely ignored. That we must have a positive, a definite diagnosis is also an error of great magnitude. Far better is it in so far as relates to the patient's good, to operate upon suspicion even though slight and even, though occasionally there may not be found a surgical condition present after the abdomen is opened. The suspicion does not have to be a presumptive one. The greatest difficulty comes from the erroneous ideas which teachers and text books have promulgated as to the causes for suspicion and it is along this line that the laity and the profession need information. I am well aware that exploratory operations have been much abused and many explorations made without sufficient justification but even with all this I am sure that could some of our "press friends" and many of our practitioners observe the work of those of us who are honestly engaged in abdominal surgery and see the difficult and not infrequently hopeless surgery in the delayed cases and the extent of the pathology with the rapid and brilliant recoveries following surgery in many of the "explorations upon suspicion" there would be a great change of heart, less raillery and much good done in an educational way which would redound greatly to the credit of medicine.

In this upper right quadrant, for the reasons above mentioned, diagnoses which seemed positive, which were based upon careful study and seeming pathognomonic symptoms may and do upon operation prove to be incorrect, yet who will say the operations were not indicated, were unjustifiable, should not have been done or failed to relieve.

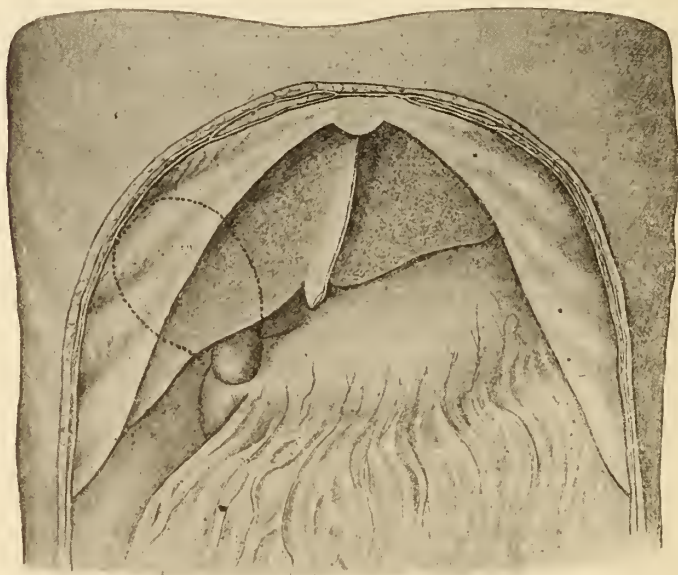
The following cases recently observed illustrate this very well indeed:

Case 1. Mrs. A. came under my observation at the City Hospital. She had been in the University Hospital about five weeks, having been taken there on account of acute pain which came on without premonition, and which was so severe that she had fallen on the street.

So far as her family history is concerned there is nothing of any interest, nor is there anything in her previous history that could have any bearing on her last illness which began eight weeks before she came under my observation. At that time she suffered an attack of acute pain in the gall-bladder region and went to bed for three weeks, without medical attention not feeling seriously ill. At the end of this period she made a trip of about 1200 miles from Oklahoma to Louisville and on the day of her arrival here she had another attack of pain in the abdomen while walking along the street. This attack was severe and she was sent to the University Hospital and remained there under the care of Dr. English for several weeks. At that time the case was diagnosed as a typical gall-stone attack. She had some jaundice. The pain was relieved by the administration of morphin. She ran a temperature of 100 degrees to 102 degrees F. for three weeks. At the end of four weeks she left the University Hospital, just able to walk and came to the City Hospital. She then had very slight jaundice. She was constipated, had no appetite, complained of a bad taste in her mouth, and had marked rigidity and tenderness over the gall bladder region, accompanied by pain in the same locality. Diagnosis of gall bladder disease was made and operation advised, which was consented to and carried out a day or two later.

Neither urinalysis nor blood examination revealed anything abnormal.

Operation was done on February 22nd. Incision was made through the right rectus muscle and we came down upon a mass of recent inflammatory exudate which was carefully separated after being walled off. The gut was found adherent to the fundus of the gall bladder and the latter was adherent to the lower margin of the liver and the anterior parietal peritoneum.



CASE 1—Perforating Duodenal Ulcer. Dotted line shows area of abscess between liver and parietal wall. Operation, recovery.

As this was separated there was an escape of partially inspissated pus from between the ribs and liver. This area was cleansed out and probably two ounces of thick, inspissated, cheesy pus was obtained. The cavity here was definitely outlined, and walled off, probably four inches in diameter at its widest extent up between the liver and the diaphragm. It contained very little pus. This was thoroughly cleaned out and temporary gauze pack placed in it. We then proceeded to separate the

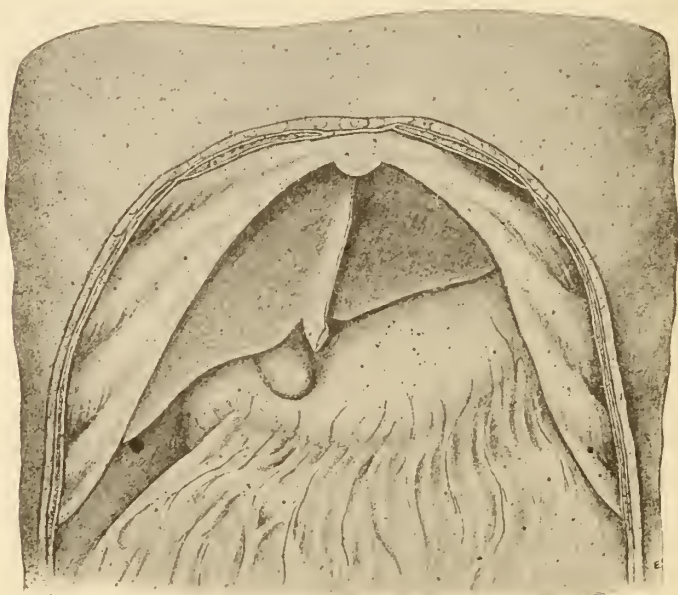
gut from the gall-bladder and, in doing this, we came at once upon a circular opening, about one inch in diameter, in the duodenum probably two inches distant from the pylorus. There were no stones in the gall bladder and drainage of the gall bladder was not carried out; we did not even open the gall bladder. Sutures were placed in the opening in the duodenum and it was covered over by an omental graft. The sutures closing the perforation were placed so as not to produce any constriction at this point. A gauze pack was placed in the abscess cavity above and a couple of drains carried down into the fossa between the liver and stomach.

For five or six days this patient had quite a stormy time but after that time she progressed very nicely. The wound has now entirely closed. She will probably have a hernia at the point of drainage but this can be easily closed.

I report this case because it strikingly illustrates be said of ulcers of the stomach, and how misleading the symptoms. We usually have premonitory symptoms in these cases but this is one case which began without any symptoms. Fortunately, when this perforation occurred she had no hemorrhage. In many cases hemorrhage is the first indication of the trouble; it is sometimes very copious and may be repeated within a short time and bring the patient close to death. In this case we were absolutely unable to get any history of digestive disturbance or any trouble whatever preceding this attack of acute pain. Evidently perforation must have occurred about the time she came to this city. I was led to believe this because of the fact that the pus was cheesy, the liquid portion evidently having been absorbed.

Case 2. The patient (seen with Dr. Weidner), a woman 43 years of age, was married at the age of 17, and has twelve or thirteen children. Five years ago, without any previous illness or any symptoms referable to either stomach or upper abdomen, she was suddenly taken ill with acute upper abdominal pain, accompanied by high temperature, vomiting and constipation. The entire right abdomen became involved and the trouble was diagnosed as appendicitis. After a very stormy illness of

five or six weeks, the attack quieted down. Since that time she has had a number of attacks of pain, which was each time diagnosed as appendicitis. However, upon close questioning, I elicited the fact that this pain had been in the upper abdomen. She constantly complained of digestive disturbance, with nausea and eructations, and spitting up of saliva and bile. At no time had she any jaundice. She has had a temperature at various times of 100 degrees to 103 degrees F. Physical examination disclosed tenderness in the gall bladder region, some



CASE 2—Gastric Biliary Fistula. Operation, recovery.

rigidity, although no mass was felt in this region. Tentative diagnosis was made of an obstructing stone in the cystic duct, with peri-cholecystitis and peri-gastritis and operation advised.

Incision through the right rectus exposed a diffused area of adhesions in the upper abdominal cavity. Upon separating these we found the colon carried high up over the gall bladder. The fundus of the gall bladder, however, was at once recognized. The liver was also adherent on its outer and lower margin. After much difficulty

the gut was freed and dropped back, and we came down upon the stomach adherent to the gall bladder. This was partly freed, the gall bladder lifted up and we then came to an indurated area, located about 1½ inches proximal to the pylorus, firmly fastened to the gall bladder between its fundus and cystic duct. No stone could be palpated either in the gall bladder or in the cystic or common ducts. This area was well walled off with flat sponges and carefully separated revealing a large opening, probably as large as the end of the little finger, into the gall bladder. This was covered up and the area of adhesions around the stomach was then examined and an opening into the stomach was also found. The raw edges of this opening were trimmed up and it was closed by a double layer of sutures, bringing down a portion of the gastro-hepatic omentum and stitching it as a graft over this area. It was then dropped back and went nicely into place. The round ligament of the liver was stitched down to this area between the stomach and gall bladder not only to protect the raw surfaces and prevent the reformation of adhesions, but also to anchor the gall bladder in its normal position in the gall bladder region. Upon examining the gall bladder, it was found to be "hour-glass" in shape, and the fistulous opening went directly into the lower larger compartment of the gall bladder. A probe was easily passed into the common duct and the bile immediately flowed out. Above the fistulous opening was another cavity of the gall bladder which would hold probably a drachm and formed the fundus of the gall bladder. This I cut away and turned in the edges and sutured thus getting rid of the smaller cavity. The usual drainage was instituted through which the bile continued to flow for several days. A drain was carried down into the renal fossa and a broad piece of rubber tissue placed between the stomach and gall bladder as an aid to prevent reformation of adhesions. This woman had absolutely no elevation of temperature and had not a single unfavorable symptom after the operation. She made a complete recovery, being discharged from the infirmary in two weeks.

GALACTOCELE.*

BY IRVIN ABELL, M.D.,

Professor of Surgery, University of Louisville.

The term "galactocoele" is usually employed to designate a cystic tumor of the breast containing milk or its products; it differs from the condition which is spoken of as "milk engorgement of the breast" in that only a part of the breast is involved and that there is a distinct sac in which there is an accumulation of milk or its products in varying amounts. The condition has long been recognized, the first case having been reported by Scarpa in 1801. His patient was twenty-six years old and in her second confinement noticed on the seventh day after delivery a swelling the size of an egg in her left breast. This was painful but presented no inflammatory sign; after four months the swelling had increased to a very great size, reaching to the left thigh when the patient sat down and fluctuating upon palpation. A diagnosis of milk cyst was made and punctured by trochar in the neighborhood of the axilla, evacuating about ten pounds of pure milk. With further incision the sac was completely emptied; milk continued to flow for several days; slight inflammatory and purulent symptoms followed and in two months the breast returned to normal in structure and shape and recovery was complete. Chemical examination showed the fluid to be true milk. Scarpa attributed this condition to rupture of the milk duct with effusion of the lacteal fluid into the glandular tissue.

Schregar, in 1810, reported a second case, the patient being twenty years old and in the middle of her second pregnancy noticed the left breast was enlarging more than the right, without pain and without the slightest local or external cause. The enlargement continued until after birth when, during the third month of lactation the tumor had attained a considerable size and presented distinct fluctuation. On puncture with trochar several litres of pure milk, mixed with coagulated flocculi, escaped; on

*Written for this Journal.

allowing this fluid to stand it separated into cream, cheese and curds. Complete recovery was reported in five months.

Sir Astley Cooper, in an article published in 1829, attributes this condition to chronic inflammation of one of the milk ducts in the neighborhood of the nipple, causing the closure of the lumen.

Forget, in 1845, presented a case of his own and a similar one of *Jobert de Lambelle*. It was he who first designated the condition as galactocoele. He says the term galactocoele should be restricted to the form of tumor which springs from one of the milk ducts forming a cyst containing milk.

Velpau, in an article in 1853, designates three varieties:

1. Infiltrating galactocoele, in which the milk diffuses into the mammary tissue.
2. Fluid galactocoele in which the milk in a fluid state, is enclosed in a circumscribed hollow space.
3. Solid galactocoele in which we have a firm tumor consisting chiefly of milk constituents.

He concludes his interesting articles with personal cases illustrating the three varieties. In connection with the third variety he reports an interesting case of galactocoele in a man seventy-five years of age, brought to the hospital with a fracture of a rib, in whom it was accidentally discovered that the left mammary gland completely resembled the female breast. It was the size of two fists, soft, and on palpation gave a feeling resembling that of a full bladder. No pain and no changes in the skin. The condition had existed nine years and had caused no trouble. On opening with a bistoury, two glasses of a clear white, cheesy, odorless fluid escaped having the physical, chemical, and microscopical characters of milk. The patient died from internal complications, and autopsy showed a cyst of the mammary glands situated between the lobes and containing milk constituents.

In a clinical lecture published in 1896, *A. M. Shield* has the following to say regarding galactocoele: These cysts must be distinguished from the local engorgement

which occur in the breasts of lactating women when the function is suddenly stopped. In any kind of animal which has the lactating process abruptly checked these enlargements, due to engorgement of the ducts will be evident, but they are not galactoceles. As one would expect, galactocoele may sometimes occur from the stretching and rupture of the duct which passes over the wall of a pre-existing cyst, but a far more common origin is obstruction of one of the larger ducts occurring during lactation. Galactoceles are usually single and sometimes of considerable size; the majority are moderate size cysts and a significant number of them take their origin in injuries; about the time of lactation malformation of the nipple is a possible cause and so are incisions which divide the ducts transversely. The contents vary; one may contain serous fluid with colostrum corpuscles, another may present clear milk, and a third may enclose matter like butter.

Gross collected seventeen cases and he found pure milk in seven, matter of the nature of cream in two, oil in one, and caseous matter in five.

Some ancient galactoceles are calcareous; some may shrink and diminish, and it must be remembered that swellings of this nature may be found many years after a lactating period. *Sheild* saw a case in which galactocoele had existed twenty years and it withered up into a hard mass exactly like cancer. In the London Hospital Museum there is a specimen which contained curdy material surrounded by a hard structure and it was excised in mistake for scirrhus.

In the diagnosis we have the following points to aid us:

1. Their onset at times of lactation.
2. By their enlargement when lactating or suckling.
3. Probable history of injury.

To the touch the milk cyst forms a smooth elastic swelling; the skin and nipple are not implicated, the superficial veins are not enlarged or but slightly so, and the swelling presents cystic characters. Only an exploratory incision can certainly clear up the case.

R. T. Beamish published in 1884, the data of a very interesting case. In this the breast was sore and painful and the application of the child caused distress; there was excessive secretion of milk from the onset; the breast remained normal in appearance except that it was apparently pushed forward by a retro-mammary collection causing the gland to be tense and firm. After six weeks time there was no constitutional disturbance or pain, but deep fluctuation could be noted. A trochar and canula was pushed into the part above and inside the nipple and twenty-two ounces of milk was withdrawn.

The interesting part of this case is that it at first presented the appearance of a sub-mammary abscess in the course of development; there, however, being no constitutional disturbance, pain, or pyrexia which should be present in this or in any ordinary inflammation of the gland.

Diriart in 1895, reported a case of a woman who began to menstruate at the age of sixteen from which time she noticed that the right breast was larger than the left and in which a tumor the size of a mandarin developed; this remained stationary in size but was moveable upon the thoracic wall. She married and was confined for the first time at the age of twenty-eight years. The secretion of milk was normal in both breasts but was suppressed later by limitation in diet, purgation and compression. Following this it remained stationary until the second confinement five years later when it attained the size of an infant's head; milk again appeared in both breasts but the infant was unable to obtain milk from the breast in which the tumor occurred as there was apparently an obstacle to suction. At operation it was found that one of the lobes was distinctly isolated and had formed the mass mentioned; it was dissected out and the wound packed with gauze. On incising the dissected mass it was found to contain material like fresh putty which, on microscopical examination proved to be thickened milk. At no time was there any pain in the tumor.

The interesting points in this case are that it dated from her first menstruation, and that it augmented only

during her two pregnancies, the latter circumstances leading to a diagnosis.

In diagnosing the above case the reporter says that galactoceles presents the general structure and typography of adenoma of the breast especially the cystic form. Often we find numerous smaller cysts or pouches in the walls of the larger one, exactly as in cystic adenoma, but still others form one large and simple cyst.

Charles J. Jewett reports a case of a patient thirty-five years of age presenting a galactocoele in the left breast three months after delivery; the galactocoele was incised and a milky fluid evacuated, followed by a flow of milk three or four weeks when all discharge ceased and the wound closed, the breast apparently returning to normal. One year later there appeared at the site of the former galactocoele a nodular mass which was irregular in its enlargement and hard to palpation; the nipple was retracted and the surface of the breast elevated around the nipple; the gland was freely movable, the tumor not adherent to the skin, and a very slight tumefaction of the axillary glands was noted. Upon incising the tumor about five ounces of butroid material was evacuated. On exploring the cavity with the finger, part of the cystic wall was found smooth and supple while part was very hard, presenting numerous secondary cavities of various dimensions; the walls of the secondary cysts were for the most part rough and encrusted with material of calcareous hardness. Several drachms of hardened cheesy matter were removed with a curette; the wound was packed and drained, subsequently closing completely, and at the end of five months the breast had returned to normal.

Jewett says that lactiferous cysts arise in most cases from ectasia of the ducts or dilatation of their sinuses and of the glandular acini.

Velpau and others state that in a certain proportion of cases they owe their origin to rupture of the ducts and extravasation of milk into the cellular tissue. Activity of secretion, and obstruction of the duct are obviously essential conditions for their development; hence the tumor is first noted during lactation and often there is a

history of antecedent mastitis, of injury from blows, or other conditions capable of causing total or partial obliteration of the milk duct. The contents is most frequently milk but little altered; in a certain proportion of cases inspissation takes place by the gradual resorption of the watery constituents and the cheesy residuum remains. Dry, cheesy nodules sometimes form, being so hard as to resemble calcareous concretions; the occurrence of these bodies has given rise to the term "milk stones." Other fluids than milk may be found in lacteal cysts, notably menses, serum and blood; epithelial debris and the various products of milk decomposition may form part of the cyst's contents. The mammary tissue which forms the wall of the cyst is generally more or less thickened and indurated by fibrous deposit.

These cases, which has been abstracted by the writer, do not cover the entire literature upon the subject but suffice to present the chief points in the etiology, diagnosis and treatment of the condition; the literature upon the subject is not extensive as galactocele, is a rather rare condition. *Rodman* states that in all of his experience he has seen but a single case and *Keene*, who has amputated five hundred breasts and has seen three hundred others which were diseased, has likewise met with but one case. A study of the literature reveals that it is most frequently met in connection with lactation, occasionally observed in nulliparae, and still more occasionally (as in the case reported by *Velpan*) it has been observed in man.

The writer wishes to report the following case:

Mrs. J. R., age 22, of this city, referred by Dr. E. Katzman. One week following her first confinement she noticed a slight enlargement in the upper and outer quadrant of the right breast. When first noticed the enlargement was the size of an olive, smooth, painless, and freely movable; as lactation progressed the tumor gradually increased in size until, at the end of nine months, when she came under my observation, it was the size of a large orange. The breast was freely movable upon the pectoral muscle and the tumor was irregular in its contour but smooth, painless, did not present inflammatory evi-

dence and fluctuated. The child nursed the breast and it apparently secreted as much milk as the left. There was no enlargement or pain in the axilla. She was subjected to operation in November of last year, the tumor being approached by an incision along the axillary border of the breast, the gland was raised from the pectoral fascia and the cyst enucleated from behind. This route was chosen because of the belief that the tumor was benign in character and because it afforded access to the tumor without endangering the integrity of the ducts leading to the nipple. Upon enucleating the tumor, the sac was opened, milk and cheesy matter resembling butter escaping. The cyst proved to be a dilated milk lobule containing the fluid mentioned; it was enucleated in its entirety and the wound closed with a small cigarette drain, placed in the lower angle. Lactation was not in any wise interfered with by the operation and the child continued to nurse the breast until weaned. At the present time (eight months after operation) the breast is normal in size and contour and presents no evidence of the former trouble except a scar left by operation.

A CASE OF DERMOID OF THE CORNEO-SELERAL MARGIN.*

BY ADOLPH O. PFINGST, M.D.,

*Professor of Diseases of the Eye, Ear, Nose and Throat,
University of Louisville.*

The rather infrequent occurrence of dermoids of the eye prompts a full report of the following case. A boy, 17 years old, gives the history of having had a white body about the size of a split pea on the left eye, partly covering the sclera and partly the cornea. The mass had seemed to remain about the same size until two years ago; since then it had grown considerably and had become more pink in color and had developed hairs on the

*Written for this Journal.

surface. The boy had suffered little inconvenience from the growth, although, as he says, the eye "waters" easily and his vision had grown somewhat defective.

Examination. Astride the corneo-scleral margin of the left eye, at its outer side, was a slightly oval firm mass with a convex surface. Its surface had a pink color, was rather uneven and had six or seven stiff hairs projecting from it. It was about one quarter inch in thickness at its middle and measured one-half inch horizontally and three-eighths vertically. It was firmly adherent by its concave base to the sclera and cornea, which it covered for about an equal distance, covering the cornea almost to the pupillary edge. By closing the lids gently



Dermoid at the corner—scleral margin of the left eye

the patient was not quite able to cover the growth. The conjunctiva on the temporal side was red and contained numerous blood vessels running towards the tumor resembling a small pterygenm.

Owing to corneal irregularity vision was reduced to 20/100.

Under cocaine anesthesia the growth was removed by grasping it with fixation forceps and, beginning at its horizontal edge, was cut from its attachment with a Von Graefe cataract knife. The gaping conjunctiva was drawn together close to the cornea with a suture and the corneal surface left open.

Considerable reaction followed the operation and there was some pain for twenty-four hours. The con-

junctival surface united readily, covering the scleral wound. The corneal wound developed granulation tissue which was reduced by applications of nitrate of silver in crystals every other day and after six weeks left a smooth corneal surface with considerable opacity.

Microscopic sections of the tumor revealed a rather fibrous mass covered with skin. The epithelial coat was in layers as in skin elsewhere and rested on a corium of vascular areolar and white fibrous tissue. It contained but few rudimentary papillae. Several sections showed hairs and sebaceous glands.

The growth was devoid of fat and contained no sweat-glands.

The microscopic feature of interest was the presence of a large oval node of adenoid tissue, very much as they are described in the elevations of spring catarrh and as we find them in tubercular tissue. The cells making up the node were large lymphoid cells with large nuclei. At the periphery of the node numerous giant cells were found with large bodies and numerous peripheric nuclei. Near the center of the mass a small elongated yellowish area was present, which was evidently a section of a deep hair. Surrounding the nodule the fibrous tissue was in bands and seemed almost to encapsulate the mass of round cells.

No examinations were made with reference to the tubercle bacillus.

The presence of this adenoid nodule in the growth is hard to explain, but might be looked upon as an inflammatory product resulting from some mechanical irritation, such as an inverted hair. The large amount of fibrous tissue, the giant cells, and the history of an increase in size, change in color and the development of conjunctival blood vessels would further indicate its inflammatory character.

The congenital growth of skin on the surface of the eye has been described as early as 1742, but a detailed study of the etiology of such growths and their histological structure was not published until 1853, when Ryba described them fully and, on account of their histological

resemblance to skin, gave them the name "dermoids." They were found to contain all of the elements of skin, though in varying degree and proportions. They were most frequently covered with stratified epithelium resembling the epidermis under which was found the papillary layer, with the papillae usually not well pronounced. Hairs with hair follicles and sebaceous glands were nearly always present, while the presence of sudoriferous glands was exceptional. The underlying tissue was made up usually of areolar tissue, but in some adipose tissue developed abundantly. Exceptional cases have been reported in which the growth had smooth or striated muscular tissue, bone or cartilage entering into their make-up. Accordingly as dermoids have little or much subcutaneous fat (dermo-lipoma) their consistence varies from a resistant firm mass to a soft elastic growth. They usually have the color of the skin of the individual on whom present, though somewhat less pink on account of the poor blood supply. The surface viewed through a magnifying glass is usually marked with lines and depressions as in skin elsewhere. Two kinds of hair have been described projecting from the surface, small downy ones and long stiff hairs, the latter developing after puberty. The growths usually assume a semi-elliptical shape. They vary in size from one-sixteenth to three-sixteenths inch, although larger ones have been reported. The writer has seen three other cases in his practice, one of which was the size of the present case (*Ophthalmic Record*, 1903), and two smaller.

Nobbe has made a division of ocular dermoids according to their location into those at the corneo-scleral margin, which are by far the most frequent; those on the globe away from the cornea and those on the caruncle.

Those at the corneo-scleral margin are nearly always oval with the long diameter horizontal and usually have the corneal margin running vertically through their center. They nearly all occur at the outer corneal margin and extend slightly downward, although they have been observed at other parts of the limbus. They usually occur singly, but cases with two or three small dermoids

on the same eye have been seen. Sometimes single dermoids occur at symmetrical situations on the two eyes.

Dermoids on the bulbar surface away from the cornea usually have less cutaneous structure than those at the limbus and frequently have much fatty tissue entering into their make-up. They show a much greater tendency to grow and spread than those at the corneal edge. Their seat of selection (70 per cent.) is between the insertion of the superior and external rectus muscles.

Dermoids at the inner canthus occur very rarely, but have been found there either on the caruncle or the plica-semilunaris.

Ocular dermoids always occur as a congenital condition and usually grow only in proportion to the growth of the eye. When they do enlarge, it is usually after puberty and results from the development of fat. Von Graefe, Hildige, and others have reported cases of this kind in which the cornea almost became covered by the skin tumor in a year. There is no sharp line of demarcation between the sub-epithelial areolar and adipose tissue and the underlying structure.

The etiology of these growths is still in doubt. Ryba believed that a cornification of the conjunctiva takes place as a result of an incomplete closure of the eye lids during fetal development while Van Duyse believed them to result from the adhesion of the amnion to the eye. They were formerly looked upon as warts. In about one in every three and a half of cases on record dermoids were associated with other abnormalities, as coloboma of the iris, choroid or the eye lids, microphthalmus, hare-lip, and cleft palate. The correspondence of the dermoid to the notch in the lid in cases of coincident coloboma of the lid was cited by Ryba as an argument in favor of his theory of their development.

Cases of early development of ocular dermoids have been known to retard the development of the eye ball.

It is of interest to note that dermoids of the eye have frequently been observed in dogs, sheep, pigs, and other lower animals, the skin containing wool or stiff hairs corresponding to the animal in which it was found.

The symptoms produced by these innocent growths of the eye are few. There may be some irritation of the conjunctiva, especially after long hairs develop on their surface. Vision may be somewhat interfered with on account of the flattening of the cornea. When development takes place as it does at times after puberty, there may be mechanical interference with vision and some discomfort in closing the eye lids. However their surgical removal should be suggested before they reach such proportions.

While their removal can be readily accomplished under local anesthesia, their firm union with the cornea makes it impossible to remove them without removing some of the corneal tissue which, after epithelializing, results in a corneal opacity. The easiest method of removal is to begin at the horizontal edge and by severing the tumor from its base with a sharp Von Graefe cataract knife and then by lifting this edge with forceps follow along its attachment with knife or scissors until the entire mass is removed. The corneal surface should be shaved as smooth as possible as in a pterygium operation.

Danger of recurrence is very slight or practically impossible if completely removed.

Atherton Building.

The American Surgeon. Smith believes, might be emulated abroad in the following particulars: A more profound respect for the sacredness of the tissues of the body, more thorough explorations in the abdominal cavity when it is entered, an endeavor at times to work through smaller incisions, more prompt hemostasis on the part of the assistants, more discrimination in the selection of ligature material, and greater neatness of technic.

European Surgeons are characterized by O. C. Smith by their patience in pursuing a long course of preparation, their accurate knowledge of anatomy, familiarity with gross pathology, willingness to serve long as assistants before occupying the responsible post of full surgeon, and devotion to the life with but small compensation.—*New York Medical Journal.*

Selected Article.

THE INFLUENCE OF ALCOHOL ON TRAUMA.*

BY FREDERIC S. DENNIS, M.D., F. R. C. S.,

New York.

Professor of Clinical Surgery, Cornell University Medical College.

The importance of the relationship between alcoholism and traumatism is best illustrated by the fact that of 600 persons with trauma admitted to the first surgical division of St. Vincent's Hospital, 347, or fifty per cent., gave a history of alcoholism. Dr. Hartigan, to whom I am indebted for these statistics, shows that 160 were mild drinkers, 142 moderate drinkers, 45 were extreme drinkers, while 253 were total abstainers. In this latter class experience has demonstrated the fact that some of these patients deny the use of alcohol on account of accident or life insurance, so that without doubt the percentage of patients admitted who are addicted to the use of alcohol is considerably over fifty per cent. These facts illustrate most forcibly the importance of the value of prophylactic treatment in half of the cases of trauma and the omission to institute this plan of treatment in these cases has been attended with an outbreak of alcoholic phenomena which has lasted in some cases for many weeks and in others in a fatal termination. Within the last few months the writer has given especial attention to this complication of alcoholism in cases of traumatism, and the results of the treatment have been eminently satisfactory. In all the cases of trauma in which there was an alcoholic history, and in which upon admission to the hospital certain prodromic symptoms were present, a rigid prophylactic treatment was at once instituted, and only in one solitary case has delirium tremens occurred, followed by wet brain and death. Many of the patients with fractures were heavy drinkers, and yet they escaped this dangerous complication by the prompt application of therapeutical measures, directed to the relief of the alcoholic phenomena. Some of these patients who escaped confess to twenty or thirty years of steady drinking, and to ten or fifteen glasses of beer with five or six glasses of whiskey daily. In these cases no serious or fatal

*Continued from July Number.

alcoholic symptoms followed beyond the initiatory stage of slight nervous phenomena present upon admission to the hospital.

I am indebted to Dr. Hartigan also for the careful investigation of the cases of trauma associated with alcohol occurring during the past month in my service at St. Vincent's Hospital. He has pointed out the interesting fact that of the last seventy cases of this character delirium tremens did not develop in one single case of traumatism with an unmistakable history of alcoholism and with undisputed prodromic symptoms of the nervous phenomena, in which prompt, aggressive treatment was instituted. This is in marked contrast to the preceding cases of alcoholism in which no prophylactic treatment was instituted, and in which the nervous strain of symptoms followed to a greater or less degree.

The treatment of delirium tremens consists of a plan which has for its object:

1. The elimination of the toxæmia.
2. The enforcement of sleep.
3. The administration of cardiac stimulants.
4. The maintenance of nutrition.
5. The alleviation of gastritis.
6. The necessary restraint.
7. The attention of atony of the bladder.
8. The cleansing of the oral and nasal cavities.

The elimination of the toxæmia is best attained by a brisk purge which must be a drastic one to meet the indications. Calomel with jalap appears to be the best form of eartharsis. Ten grains of calomel with twenty grains of compound powder of jalap will empty the alimentary canal freely and in a few copious moments. This powder should be followed in a few hours by a good saline. The high irrigation of a saline solution at the temperature of about 110 degrees F., with a long flexible rubber tube will be a most valuable adjuvant, and should be repeated from time to time according to the indications. The kidneys must be called upon also to help in the elimination. With this in view large quantities of water can be taken if the stomach permits.

The enforcement of sleep is a most important point in the prophylaxis. Potassium bromide in 20 grain doses with doses of 1/100 of a grain of hyosine hypodermatically administered and repeated as often as is necessary after several hours according to the condition of the pulse, seems to give the best results. The

hyosine is tasteless and is given in such small bulk that it seems especially indicated where any violent manifestation is present. Chloral hydrate should be used with care, since many of the patients suffer from a fatty heart. Chloral in alcoholic cases produces the most natural sleep of all the narcotics, especially when combined with the bromides. The patients do not suffer from distressing dreams, awake refreshed after several hours of sleep. The drug causes contraction of the pupils and a lowering of the bodily temperature, and must be used with judgment since it is a cardiac depressant, and likewise produces a vasomotor paralysis, and acts as a depressant to the motor tract of the spinal cord, and decreases reflex action. If the pulse is fairly good, chloral may be given in 10 grain doses with 20 grains of bromide, but usually the combination of bromide with hyosine acts the best in the majority of cases, especially if there are any violent symptoms present. In any of these cases judgment must be exercised in the use of cardiac stimulants especially in the aged.

Paraldehyde is a most important adjuvant, and should be given in two drachm doses as small doses do not produce sleep, but often excite the patient. Paraldehyde in two drachm doses to be repeated in a less sized dose after two hours will eventually cause the patient to succumb to sleep, and is not likely to cause any cardiac disturbance. This remedy is best taken in an ounce of cold water. It must be remembered that in rare instances paraldehyde is incapable of producing sleep. It is, however, very rarely that this phenomenon occurs. Magendie's solution is only used when restlessness is extreme and cannot be controlled by the drugs mentioned above. The morphine is apt to cause suppression of urine and atony of the intestine with tympanites and later headache. For this reason morphine in only exceptional cases is to be employed.

Apomorphine has been used with success in a certain class of cases. A most interesting paper on the use of this drug in alcoholism has been published by Drs. Warren Coleman and John Metcalfe Polk, and the conclusions at which they arrive are quoted. The deductions have been drawn from an experience of some three hundred cases and are so valuable that the writer desires to present them for the benefit of the profession.

1. To obtain a hypnotic action with apomorphine it should be given hypodermically.
2. The dose cannot be fixed. It is best to be given with a

small dose, 1/30 grain, or less, and to repeat this or give a slightly larger dose within a short time. Further doses should not be given after vomiting occurs, until several hours have passed.

3. Doses repeated in two or three hours have but little beneficial effect.

4. The administration of apomorphine should not be repeated in patients who are weak.

5. The duration of the hypnotic action is only a few hours, and when the patient awakens his condition is practically unchanged, except in "ordinary drunks."

6. The best results are obtained from apomorphine when it is followed in two or three hours by some recognized hypnotic, as bromide, chloral, paraldehyde, etc.

7. Solutions of apomorphine are unstable, and should be freshly made for use. Old solutions should never be used.

8. Apomorphine may be employed as a hypnotic in selected cases of alcoholism. We obtained the best results in "ordinary drunks" and in patients verging on delirium tremens. But in some of these patients the drug has no effect whatever.

9. The administration of apomorphine to patients in delirium tremens is, in our experience, without beneficial results, and may even be attended with danger from its depressing action.

This analysis represents in the main, the results obtained with apomorphine in all the 300 patients presenting alcoholism, to whom the drug was administered.

The administration of cardiac stimulants becomes an important feature in the treatment of these cases. Strychnine in 1/50 grain dose tablets, every six hours, either by mouth or hypodermatically, is one of the best remedies to counteract the cardiac depression. If the kidneys are not diseased, fluid extract of digitalis in 3 to 5 minim doses, every six hours, is an excellent remedy. I have used ergotine with excellent results, and it seems to be a drug especially suited to these cases. The intense excitability of the spinal cord, and the paresis of the vasomotor system point to the use of ergot as one of the best remedies to meet the twofold conditions. The disturbance of the vascular system of the nerve centres, and the paresis of the vasomotor system must be made normal in order to have removed the distressing symptoms incident to the toxæmia present in alcoholism. The cases in which ergotine has been used in 1/100 grain doses hypodermatically two or three times a day for several weeks have been most satis-

factory in the permanency of the cure in many cases, and the immediate relief of the distressing symptoms in nearly all of the cases of delirium tremens with the usual sequelæ. The administration of whiskey for a few days to ward off an attack of delirium tremens has been severely criticised by medical men whose opinion is entitled to the highest respect. They argue, why continue whiskey and add to the toxæmia when its discontinuance and elimination are the great objects in view. The answer is that experience has taught in thousands of cases that a gradual diminution meets with the best success, and after a good night's sleep has been obtained then the whiskey should be discontinued. During the onset and continuance of an attack of delirium tremens is not the time to try to reform the patient. When the alcohol has been all withdrawn, strychnine should be substituted, as this overcomes the tendency to cardiac weakness by the discontinuance of alcohol, and relieves that feeling of lassitude and depression. The administration of whiskey in other words at this temporary critical juncture in the condition of the patient becomes a necessary evil to be discontinued and dispensed with altogether as soon as the state of the patient makes it possible. Alcohol is the cause of delirium tremens, and this cannot have been continued a long time with its profound influence on the nervous system and be suddenly checked without serious disturbance. It is to bridge over this crisis only that its use is urged until sleep is obtained after which the prohibition can be enforced. If whiskey is ever eliminated in the prophylactic treatment it is only in the case of young people with good heart and kidneys; but not in the aged or feeble.

The maintenance of nutrition is another important point to consider. The presence of gastritis often prevents the imbibition of food on account of nausea and vomiting. The surgeon must bear in mind that the tendency of the alcoholic habit is to cause exhaustion, and for this reason it is imperative to begin and continue food as soon as the patient can tolerate it. Among the articles of diet milk and vichy in small and oft repeated doses are found to be most nutritious. Beef tea or broths are articles of diet to be highly recommended where milk cannot be taken. Some patients like the alternate use of these articles of diet. It is highly important to maintain the strength of the patient since the tendency of the disease is toward physical exhaustion. As soon as the patient can digest these articles of food, more nutri-

tious diet in the form of eggs and chicken can be added. Butter-milk is an excellent form of nutrition in these cases, and sometimes kumyss is also used with advantage. The albumen of eggs in cold water to which has been added a little salt is a most excellent form of nutrition to be taken in small quantities at frequent intervals.

The alleviation of gastritis is another important element in the treatment of these cases of alcoholism following trauma. If the patient is in a condition to have the stomach washed out lavage of that viscus with a three per cent. solution of boric acid in hot water, to which is added a teaspoonful of bicarbonate of soda is of great benefit, and if washing out the stomach is not practical pancreatin in ten grain doses combined with twenty grains of bicarbonate of soda forms a useful powder to overcome the nausea, or a powder, composed of five grains of cerium oxalate with ten grains of sodium bicarbonate has been found to be as satisfactory as any of the remedies that have been suggested for the treatment of this form of gastritis. After the vomiting has ceased and the patient can take solid food, five to ten minims of tincture of nux vomica in a tablespoonful of water is a most valuable tonic to administer three times daily after eating. This is one of the best stomachic tonics to employ to improve the condition of the stomach. This tonic should be continued for a fortnight at least.

The surgeon must bear in mind that also that the disease is one of exhaustion, and if the stomach will not tolerate food, rectal alimentation for a few days must be employed, or the rubber tube to which a funnel can be attached into which fluid diet can be poured. This form of feeding is often very difficult to carry out owing to the opposition of the patient.

The necessary restraint forms a feature in the management of alcoholism that deserves some special consideration. It must be laid down as a rule that the least restraint consistent with the safety of the patient is the best method to be employed. The use of wrist and ankle bands or the application of a straight jacket or the exercise of force on the part of the attendants have a deleterious effect on the patient, and often increases the delirium and excitability. As a rule to which there are a few exceptions, these patients can be managed by persuasion and kindness and even often humoring them in their delirium. Any violent action upon the part of the nurse only excites the patient, and makes

him more intractable. These patients must, however, be carefully watched since they are apt to rush out into danger owing to a delusion that they are persecuted. In hospitals where there are a number of patients it some times becomes necessary to resort to methods of restraint; but it is always to the disadvantage of the patient. The sheet is often used under the bed clothes and over the patient and fastened under the iron frame of the bed, so that the patient can not get up and this form of restraint in no way excites the patient as he is not aware of its application.

The attention to the atony of the bladder must not be overlooked. As a rule these patients do not void urine voluntarily, and the bladder must be emptied by a catheter, the introduction of which requires the practice of the greatest asepsis, as a cystitis is likely to follow a careless catheterization, and this complication is most serious. In many cases the patient voids urine in the bed, and the attendant thinks that the function is normal, whereas the escape of urine is due to overflow. In some cases this has led to error very much to the detriment of the bladder, which becomes stretched and dilated. In one case in which the bed was saturated with urine a precautionary catheterization was employed, and as much as thirty-six ounces were withdrawn by the catheter where it was thought the patient was voiding urine involuntarily. In all cases of alcoholic narcosis the bladder condition must always be examined by the catheter in order to be sure that the viscus is not overdistended, since re-absorption of toxins may result from the residual urine.

The cleansing of the oral and nasal cavities forms a feature in the treatment of these cases. Sordes form on the lips and the mouth become foul, and the nasal cavities are filled with dried mucus, and the tongue heavily coated. It is essential that these parts be kept clean since septic pneumonia may follow in these cases and without doubt the infection may arise from this centre. In addition to septic pneumonia, cleansing the mouth prevents a paroditis from absorption by the ducts of effete material in the mouth. The parotid and submaxillary and sublingual glands are infected through these avenues and the cleansing of the cavities often relieves the patient of much suffering and sometimes death from septicæmia. The sponging of the body with alcohol is indicated, since the skin is very active, and the patient is often bathed in perspiration. When the patient can be got out of bed the free use of baths is a most valuable

adjuvant and should always be resorted to in order to still further excite diaphoresis. The treatment of delirium tremens as carried out in the military service in Berlin consists of salines, shower baths, meal broths, with no hypnotics, and the mortality is low. This plan of treatment is undoubtedly good; but it needs additions in the class of patients that are admitted into a metropolitan hospital for the habits of life, the constitutions, and the environment are altogether different from the soldier's life in a garrison.

Finally, the prophylactic treatment is recommended in all cases of trauma in patients addicted to drink to avert the distressing and long continued sequelæ of alcoholism, to prevent an outbreak of delirium tremens, to ward off the condition known as wet brain, to reduce the tendency to insanity, and to lessen the mortality. The removal of any and of all of these conditions is a reason for urging the prophylactic treatment in these cases of trauma in which there is associated an alcoholic history.

The necessity of these prophylactic measures becomes apparent when it is considered that more than fifty per cent. of the patients with trauma recently admitted to my hospital service have shown to be addicted to alcohol, and that delirium tremens with all the unpleasant sequelæ is likely to develop in these cases, and in some cases with a fatal result.

In alcoholism including delirium tremens the mortality is subject to wide variations among writers. It has been estimated as high as thirty-five per cent. in some reports, while in others the death rate had been very much less. The mortality of the cases of alcoholism in which delirium tremens usually followed and treated in the medical wards of St. Vincent's Hospital, was extremely low since the treatment is essentially the same as is employed in those cases in which the condition arose with trauma as the exciting cause. In 563 consecutive cases of alcoholism there were five deaths, and four of the fatal cases were admitted while the patients were unconscious, and the fifth case during an attack of pneumonia with a temperature of 105 degrees F. Aside from these deaths there was not a fatal case. In my surgical service on the second surgical division there have been no deaths in the last fifty consecutive cases of alcoholism, and delirium tremens did not develop in one of these patients, in whom the prophylactic treatment was instituted upon the appearance of these cardinal symptoms of tremor, insomnia, and delirium. The result of prophylactic treatment of alcoholism to prevent an outbreak of delirium tremens is certainly most satisfactory and gratifying.—*New York Medical Journal.*

Recent Progress in Medical Science.

BLOOD COAGULATION.

The hypothetical substances which seem to exist in the tissues and which have not yet been identified, known under the names of thrombokinasase or zymoplastic substances, have been studied by B. M. Bernheim, Baltimore (*Journal A. M. A.*, July 23, 1910), whose attention was called to the subject by observing the clotting property of the adventitia of the vessels. He found the success of a blood-vessel suture primarily on the proper treatment of the adventitia; unless every vestige of it was removed from the cut edge of the vessel, the line of suture failure almost invariably occurred on account of the formation of a thrombus. This led him to the suggestion that this action of the adventitia might not be merely mechanical, but there might be also some secretion of the adventitia, which on injury was poured out and aided in the clotting process. Further consideration led to the belief that possibly this substance was contained in all three coats of the vessel, and this factor should be dealt with in all clotting and thrombus formations within and without the blood-vessel. He reports experiments on dogs in which the extracts of both the intima, the media and the adventitia were used, and it was found that all three coats were thus active alike. Then the whole blood-vessel was used with the same result, the control showing no such action. On heating the extracts which produced or seemed to be connected with the clot, it was found that they partially lost their activity and lost it completely with prolonged boiling. Standing at room temperature for a long time also caused the activity to disappear, but it persisted much longer if they were preserved on ice. A few drops of acetic added to the juice threw down a heavy whitish flocculent precipitate, which, being washed with sodium chlorid and then taken up with a few drops of sodium carbonate, acted exactly like the whole juice and with the same rapidity, while filtrate was practically inactive. It would seem, therefore, he says, from the above, that just as in the liver muscle, etc., so in the vessel wall itself, is a substance which, when the vessel is injured, probably aids in the formation of a clot. If this is true, those engaged in the field of vascular surgery have still another problem to consider in connection with the already very difficult and trying technic. The final solution

of this problem, however, rests with the pharmacologist and physiologist, as is the case with many other problems of modern medicine.

A DIAGNOSTIC SIGN OF CHOLELITHIASIS.

Abraham (*New York Medical Journal*), reports that he has never failed to find, in the many instances of gallstone disease which have come to his notice, a painful point midway between the umbilicus and the costal cartilage of the ninth rib in the right hypochondriac region. The method of eliciting it is as follows: Place the patient in the recumbent position with the arms and legs extended. Ascertain a point midway between the umbilicus and the ninth costal cartilage, then with a sudden thrust press the index and middle fingers of the right hand into that point. The effect on the patient is like an electric shock; there is either a grimace on the face denoting suffering or a quick involuntary jump of the abdomen as if it were struck with a pointed instrument. As often as the finger thrust is repeated just as often is the painful response obtained. In an acute attack with a diffuse area of hyperesthesia, the midway point is present at all times while the whole area around it may enjoy freedom from sensitiveness. The absence of this point after its repeated presence in a case long under observation argues in favor of a gall bladder which has got rid of the stones.

THE CARE OF THE MAMMARY GLANDS BEFORE, DURING AND AFTER THE PUERPERIUM.

J. H. Tebbetts, of Hollister, Cal., (*Med. Record*, June 25, 1910), ascribes great value in the treatment of all sorts of troubles of the breast connected with pregnancy and lactation to firm bandaging over layers of nonabsorbent cotton. He keeps the breasts bandaged thus from the second day after labor, changing the dressing daily. When the babe has nursed, the nipple is washed with borie acid and the dressing replaced. Caked breast is never seen under this treatment. The thickness of the cotton is gradually decreased to the eighth day, when it is removed. Sore nipples are due to infection. Sterilized castor oil is applied, after cleansing with lysol solution, nursing is forbidden, and the

breasts are bandaged with cotton batting. The breast will never become overdilated while bandaged. Caked breast on the third day after labor is regarded as due to a normal congestion, and is treated with the bandage. Mastitis is treated in the same way, any collection of pus being incised, and nursing stopped. For weaning, the bandage is equally useful. This method is a simple and practical one of treatment of the mammary gland, as well as a preventive of many troubles.

DRAINAGE AND DRESSING OF WOUNDS IN MINOR SURGERY.

Archibald E. Isaacs, New York, (*Med. Record*, July 16, 1910), thinks that the principles of surgery with reference to dressings and drainage are often overlooked. Drainage is assistance given to Nature in providing and keeping up an unobstructed outlet for the exudate from any wound. Discharge allowed to stagnate or collect under tension would do harm. Packing is not generally required. It is only useful to keep open collapsible cavities. Dressings are applied to suppurative wounds to protect the wound from external influences, and to provide means of absorption and removal of exudate from the wound. Methods of drainage should be such as aid nature. Many wounds would do better undrained and unpacked. Gauze is open to the objection that it easily becomes stuck to the wound, and the discharge dries in its meshes and prevents rather than aids drainage. It makes a good drainage material only when it is covered with a wet dressing. Gauze does not drain because of its capillarity, but permits the discharge to exude between its circumference and the drainage tract surface. Drainage comes from the *vis a tergo*. Tubes of rubber or glass drain better than gauze, but they soon become clogged up, and drain around the outside, not by the lumen. They do not become adherent to raw surfaces as gauze does. This is especially important in abdominal operations. A cigarette drain is better than plain gauze, because it does not adhere, and the fluid finds its way out around the gutta percha tissue. It does not give pain or do damage on its withdrawal. Gutta percha tissue is an ideal drainage material when a packing is not required. It keeps the wound open and prevents adhesion to the raw surfaces. Its smooth surface permits of easy introduction and removal. A wet dressing should be dipped in boracic acid

lotion, never in carbolic acid. It should be covered tightly with gutta serena tissue to keep from evaporation. In burns gutta serena tissue makes the best of dressings, because it does not adhere and allows of drainage of the fluids.

HERNIA AFTER APPENDICITIS.

A. N. Pond, Dubuque, Iowa, (*Journal A. M. A.*, July 2, 1910), reports briefly a case of inguinal hernia occurring with four months after operation for appendicitis, the first of a series of cases he has since seen. He says that when right inguinal hernia appears as a sequel to appendectomy it is usually caused by infection of the abdominal wall or destruction of the nerve supply of the inguinal canal, or perhaps to both combined. If the intramuscular spaces are invaded by infection there is serious damage to the muscles and hernia may result. Mural abscesses in this region have usually been ascribed to improperly prepared suture material but the more common cause is the *Staphylococcus epidermis albus* of Welch, usually associated with *B. coli communis*. Hence the inference is natural that the infection comes from the skin. It is a common experience that excessive hemorrhage is followed by mural abscess. Pond describes the innervation of the inguinal canal and says that any method that impairs this innervation is not justified, even if good recovery should follow. The course of the nerves supplying the different layers of the wall of the canal and their distribution should be thoroughly known, recognized and protected.

ANESTHESIA—IN ITS RELATION TO THE GENERAL PRACTITIONER

W. H. Kearney, Washington, D. C., advocates (*Medical Record*, July 9, 1910) trained anesthetists whenever it is possible to employ them. But, in the meantime, every general practitioner should acquaint himself with the method of administration and action of one or two anesthetics, and be prepared to give them intelligently. Every case should be a study in itself. Safety in anesthesia cannot be obtained without knowledge and experience, and ability to detect untoward symptoms in the beginning, and remedy them before harm has come to the patient. Nitrous oxide with oxygen is safest, but impossible to the general practitioner,

on account of the complicated apparatus necessary for its administration. Ether is from five to ten times safer than chloroform. Warning is given by the symptoms early in the administration when an overdose has been given. In chloroform the collapse is sudden and without warning, heart and respiration failing at once. Chloroform both produces narcosis and causes destruction of nervous and other tissues. Ether is less harmful to the cells of liver and kidneys, and does not so much interfere with elimination. Pneumonia following ether inhalation is generally due to dirty inhalers, or septic discharges from the nose, or vomited material getting into the wind-pipe. Chloroform is an exceedingly dangerous drug and absolutely contraindicated in most cases. Respiration may fail from obstruction or from shock.

FURTHER OBSERVATIONS ON THE PATHOLOGY OF JOINT TUBERCULOSIS AND PRACTICAL DE- DUCTIONS THEREFROM.

Leonard W. Ely, of New York, (*Medical Record*) has made careful examinations of the joint tissues in sixty-two cases of joint tuberculosis. He has demonstrated that only the red marrow and the synovial membrane are subject to the tuberculosis. The other joint structure are not involved in the tuberculous process. The condition in a tuberculous joint is made worse by partial operations, and scraping or synovectomy should never be done. Nature tries to stop the tuberculous process by destroying motion in the joint by ankylosis, and only resection aids in thus ending the process artificially. Bony union is never affected by nature in a tuberculous joint, fibrous union being the result of the reparative process. In adult joints nature does not succeed in immobilizing perfectly, operation always being necessary. In children conservative means generally succeed. Pain is a conservative symptom and tends to healing of the joint by immobilization. No operation except amputation above the diseased joint eradicates tuberculous tissue, and wherever there is motion it is liable to recur. A successful operation will cause the synovia and red marrow to disappear and will heal the joint. The hip and knee should be resected. The wrist and tarsus cannot be cured in this way.

A NEW STAIN FOR TUBERCLE BACILLI.

Vogt, (*Muench. Med. Woch.*), has used the new stain of Gasis for demonstrating tubercle bacilli and considers it superior to the

older methods, as smegma bacilli will not take the dye. After the slide is fixed with heat it is flooded with a solution of eosin bichloride of mercury in water, and warmed for about one minute. An alkaline solution is then used for decolorization; the slide is then washed in 90 per cent. alcohol and water and counterstained with methylene blue. The tubercle bacilli will be bright red, the other structures blue. The solutions should be prepared fresh every six to eight weeks. Numerous control experiments with smegma bacilli always gave negative results.

THE NOGUCHI METHOD OF SERUM DIAGNOSIS OF SYPHILIS: ITS PRACTICAL VALUE.

Daisy M. Orleman Robinson, New York, (Med. Rec., July 23, 1910,) says that the chief objection to the Wasserman reaction is the difficulty of preparation of reagents, so that it must be done in a well equipped laboratory. This makes it impracticable for the general practitioner. The Noguchi method is easier and more possible. It is simple, delicate, and gives reliable results. It offers the use of dried reagents to simplify the method. The complement is the fresh serum of a guinea pig. The amboceptor is the serum of rabbits properly prepared. The preparation of all the materials is carefully described. The author has examined 410 cases of various forms of skin diseases. The results of 180 syphilis cases agree with that of other observers. The highest percentage is obtained in the second stage; hereditary cases always give positive reaction.

THE USE OF INTERNAL ALUMINUM SPLINTS IN THE TREATMENT OF FRACTURES.

William S. Thomas, New York, (Med. Rec., July 9, 1910,) advocates the use of internal aluminum splints with steel screws, in the treatment of fractures where there is comminution and displacement of fragments. The aluminum plates may be molded to the desired shape after the fracture has been exposed. It is sufficient to expose only enough of the fragments that the plates may rest against them. With the plate bridging the site of fracture the drill is entered through a hole in the plate, and driven into the bone sufficiently to allow of entering the screws so as to hold the fragments in apposition.

Salmagundi.

IMPROVING A PLASTER CAST.—In many instances in the use of plaster of paris dressing, where it is desired that the dressing last for several weeks or more, we are much troubled with the crumbling and cracking of the plaster of paris dressing, no matter with how much care it may be applied. This difficulty may be considerably obviated by the use of paint on the outside of the plaster of paris dressing, when the dressing has been completed. —*Medical Brief.*

BATH TEMPERATURES.—The temperatures of baths is usually calculated as follows: Cold, 33 degrees F. to 65 degrees F.; Tepid, 85 degrees F. to 92 degrees F.; Warm, from 92 degrees F. to 98 degrees F.; Hot, from 98 degrees F. to 106 degrees F. —(*Dietetic and Hygienic Gazette.*)

PRURITUS ANI.—The cause of some obstinate cases of pruritus ani is the presence of a small ulcer on the rectal mucous membrane, between the external and internal sphincters. The best treatment is forcible stretching of the sphincter.

REMOVAL OF PLASTER CASTS.—This frequently difficult and time-consuming procedure may be greatly facilitated by passing over the line along which the cast is to be cut a small pledget of cotton dipped in vinegar. After about a minute has elapsed, the plaster is greatly softened, so that even a penknife will readily cut through it. It is the boast of the originator of this plan that he can thereby remove in a minute and a half a plaster cast containing 80 turns of bandage. —*Medizinische Klinik.*

ERYSIPELAS:—A saturated solution of magnesium sulphate applied on gauze and kept constantly wet is reported to have a very beneficial result in erysipelas.

SCIATICA.—In every case of sciatica it is advisable to make a thorough examination of the entire limb for the possible presence of some condition causing pressure upon the nerve, such as a bursitis in the gluteal region. —*Ex.*

When a foreign body in the nose is not easily removable with forceps, remember Felizet's simple method—the injection of warm water into the opposite nostril. Use a syringe or donche nozzle that snugly fits the naris. Begin gently and slowly, then increase the force. As the resistance suddenly ceases, the foreign body is shot out (or at least is dislodged), by the pressure of the fluid reflected from the posterior wall of the pharynx. *American Journal of Surgery.*

In burning the skin or mucous membrane with carbolic acid the characteristic white spot resulting from it instantly disappears on the application of the vinegar. Equally good effects from drinking vinegar after washing out the stomach. *American Journal of Clinical Medicine.*

In suturing a laparotomy wound in the right hypochondrium, remember that the vessel running near the round ligament may be punctured in the peritoneal suture. Its injury usually gives rise to very troublesome hemorrhage. *American Journal of Surgery.*

TO REMOVE WAX FROM THE EAR.—To remove wax from the ear, syringing with a solution of sodium bicarbonate containing some glycerin is very efficient; the wax is gradually softened and easily removed. When it is desired to remove the wax at once, hydrogen peroxide is remarkably efficacious. Fill the external meatus with the hydrogen peroxide, let it remain a few minutes. The cerumen will become softened and disintegrated, and can be easily removed by syringing with warm water. Ether has also been recommended for the purpose. The external auditory canal is filled with the ether from a pipette and in a few seconds the wax is disintegrated and removed by gentle syringing.—*The Medical Summary.*

A complaint of excessive moisture about the anal groove should not be dismissed without a careful examination for a fistula.—*Ex.*

Blood lost at stool in the form of a jet is practically always from a hemorrhoid.—*Ex.*

ECONOMY IN HYPODERMIC NEEDLES.—Thousands of rypodermic-syringe needles are thrown away each year as useless by members of the profession, which could, with a slight amount of trouble, be restored to their original state. The channel of the needle becomes occluded, owing to the deposition of material derived from the injected fluid. This precipitate is readily dissolved and removed by boiling the needles for a period of ten minutes in a solution of sodium carbonate, which not only cleanses the needle internally, but restores the brightness of the external surface as well.—*New York Medical Record.*

DANGER OF REST IN THE TREATMENT OF SPRAINS.—Sprained ankles and knees are commonest on the football field, and I fancy that it has been largely from the experience gained in treating these football injuries, that surgeons have come to realize the danger of rest. Gradually it has become evident that most of the disability after sprains resulted not from the sprain but from the treatment, the unhealthy stagnation of fluid about an unused joint, the resulting adhesions and muscular atrophy. Now our football surgeons treat their sprains by massage and moderate exercise from the outset, thus avoiding the stiffening, the atrophy and the tedious weeks of convalescence which they used to inflict.—*Dr. Richard C. Cabot.*

DETECTIVE SURGERY.

A case of amusing interest is reported. A murder was committed in the absence of any witness, but apparently after a struggle. Working upon the old theory that the image of the last object looked upon was retained upon the retina of a deceased person's eye, an examination was ordered. The ophthalmoscope revealed the clear outlines of a man's face, but to utter consternation, the upper portion was covered by a mask. A skillful surgeon was consulted, who, by working through powerful microscopic lenses, succeeded in cutting away the mask, revealing the distinct features in entirety. From a photograph of this the murderer was discovered. Can it be?

"I hear, doctor, that my friend Brown, whom you have been treating so long for liver trouble, has died of stomach trouble," said one of the physician's patients.

"Don't you believe all you hear," replied the doctor. "When I treat a man for liver trouble, he dies of liver trouble."—*Everybody's.*

News Items.

The Kentucky Midland Medical Society held its fifty-eighth quarterly meeting July 14, at the Capital Hotel, in Frankfort, Ky. Dr. John G. Cecil, Dr. William Chetham, Dr. Granville S. Hanes, and Dr. Louis Frank, attended the session from Louisville. By invitation Dr. Hanes read a paper on "Rectal Surgery." Essays on "Cancer of Stomach" were read by Dr. C. G. Daughtry, of Paris, Dr. J. T. McCymonds and Dr. Charles Vance of Lexington. Dr. Samuel Steadman of Versailles, and Dr. Woolfolk Barrow, of Lexington, read paper on "Anesthesia." The Society meets again at Paris, Ky., in October—the exact date has not been definitely determined.

The Southwestern Kentucky Medical Society met at Paducah, and elected Dr. J. Q. Taylor, of Paducah, President; Drs. G. W. Payne, Bardwell, and Q. L. Shelton, Paducah, Vice-presidents; Dr. E. C. Reynolds, Paducah, Secretary, and Dr. Vernon Blythe, Paducah, Treasurer.

Dr. Louis H. Mulligan has resigned the Superintendency of the Central Kentucky Asylum, at Lakeland. It is said to be the intention of Dr. Mulligan to spend a year or more in special study in Europe.

Dr. W. E. Gardner, for the past seven years first assistant physician at Lakeland, was appointed by the State Board of Control of Charitable Institutions to succeed Dr. Mulligan.

Sts. Mary and Elizabeth Hospital is planing to soon build a four story addition at a cost neighboring \$80,000. It is to be of red brick with a frontage of 160 feet and a width of 44 feet.

The Louisville Hospital Commission will begin their regular meetings August 11, when the members will have returned from their tour of the principle cities of the country visiting the large hospitals gleanning the newer ideas of modern hospital construction.

Dr. Ap Morgan Vance is away with the Hospital Commission on its tour.

Dr. C. B. Spalding has returned from his visit to his parents in Lebanon.

Dr. E. L. Pearce and family, are in Waukersha, Wis., to remain until fall.

Dr. J. Garland Sherrill has returned from Charlevoix, Mich.

Dr. Garvin Fulton delivered the chief address, "Elements of Success," at the commencement exercises of the Deaconess Hospital Training School.

Dr. R. C. Kenner and Mrs. Kenner, of Louisville, have returned from Lebanon Junction.

Dr. Walter R. Pinnell, of Louisville, is spending several weeks at his former home in Winchester, Ky.

Dr. H. R. Carter, Jr., of the Sanitary Department of the Isthmus Canal Commission arrived from Panama and is spending his vacation with his parents, Dr. L. A. Carter, and Mrs. Carter, at the United States Marine Hospital.

Dr. Vernon Robins and Mrs. Robins, of Louisville, have returned from Chicago Beach.

Dr. Fred L. Kountz, of Louisville, has returned from Indianapolis, where he was called on account of the death of his father.

Dr. Lewis Ryans, Louisville, has been appointed United States Marshal for the district of Kentucky.

Dr. Edward R. Pennington, Owensboro, has been appointed Coronor of Daviess County.

Dr. Henry P. Sights, of Paducah, has been elected Superintendent of the Western Asylum for the Insane, Hopkinsville, to succeed Dr. T. W. Gardner, who has become a member of the State Board of Control.

Dr. Joseph L. Barr, physician at the Frankfort Penitentiary, has resigned and has been succeeded by Dr. E. H. Maggard, Ashland.

Dr. J. A. Watkins, physician at the Eddyville Penitentiary has been appointed assistant physician at the Hopkinsville Asylum.

Dr. Edward Crume and Mrs. Crume, of Clinton, have been visiting the parents of Dr. Crume in Mt. Washington, Ky.

Dr. E. W. Montgomery and wife, of Vertrees, were the guests of friends in Vine Grove, Ky.

Dr. Edward Williams and Mrs. Williams, of Taylorsville, have gone West to make a tour through Oklahoma and Colorado.

Dr. C. A. Leathers and Mrs. Leathers of Lawrenceburg, spent a week at Olympia Springs.

Dr. James P. Gray and Mrs. Gray have returned to New Castle after a visit to Mr. and Mrs. George F. Keene, in Shelbyville, Ky.

Dr. Earl Martin and Mrs. Martin, of Meyers, Ky., have been visiting Mr. and Mrs. T. H. L. Martin, in Louisville.

Dr. A. C. Overall, of Mt. Washington, was in Louisville for a brief stay.

Dr. Thomas Bohon and Mrs. Bohon, of Houstonville, were the guests of Mr. and Mrs. George Bohon, in Harordsburg, Ky.

Dr. George W. Twomey and Mrs. Twomey, of Jeffersonville, Ind., have returned from Cincinnati.

Dr. N. L. Taylor and Mrs. Taylor, of Columbia, are visiting in Lebanon, Ky.

Dr. Harvey Barret has gone to Ann Arbor, Mich., to take a special course in bacteriology at the University of Michigan.

Dr. C. B. McGeary and family, of Owensboro, are visiting in Henderson, Ky.

Dr. E. W. Bedinger, of Anchorage, left July 15 for Verona.

Dr. and Mrs. Shacklette, of Highland Park, have returned from a visit to relatives at Ekron.

Dr. Thomas Shaver, of Anchorage, has been visiting in Lexington, Ky.

Dr. O. M. Censhaw and Mrs. Crenshaw, of Taylorsville, have returned from their visit in Mt. Washington.

Dr. H. S. Keller and Mrs. Keller, of Frankfort, were in Louisville for a brief while on their way home from French Lick Springs.

Dr. William Emmet Gardner left July 11 for Saranic Lake, New York and Baltimore, to spend two weeks.

Dr. D. A. Bates and Mrs. Bates, of Zoneton, were the guests of Miss Sue Brown, at Fern Creek.

Dr. R. S. Rutherford and family, of New Albany, Ind., left for French Lick Springs.

Dr. W. S. Smith and Mrs. Smith have returned to Anchorage, from visiting Eminence and New Castle.

Dr. Richard Drake, of Browling Green, Ky., has gone to Chattanooga, Tenn., to locate.

Dr. J. B. Lukins and Mrs. Lukins, of Louisville, have returned from Flemingsburg, Ky.

Dr. S. J. Smock has been elected health officer of Glasgow to fill the unexpired term of the late Dr. Richard E. Garrett.

MARRIAGES.

Dr. Benjamin W. Bayless, of Anchorage, to Mrs. Willis Cecil Nield, of Louisville, June 29.

Dr. D. Yandell Roberts to Miss Alla May Sweeney, both of Louisville, July 4, in Jeffersonville, Ind.

Dr. Boyd Muster, of Jeffersontown, to Miss Bessie Crady, of Lyons, Ky., June 30.

Dr. George W. Twomey to Miss Ella J. Bigelow, both of Jeffersonville, July 2, in Indianapolis, Ind.

DEATHS.

Dr. W. W. Cleaver, at his home in Lebanon, Ky., July 4, from paralysis, aged 83 years.

Dr. Robert Emmett Burke, at his home in Louisville, June 28, from tonsillitis, aged 27 years.

Dr. J. R. Wolford, at his home near Columbia, June 23.

Dr. James R. Ely, of Frankfort, Ky., at the home of his son-in-law, William T. Lindsey, at Tyron, N. C., aged 74 years.

Dr. Edwin Hawes, at his home in Louisville, July 12, aged 59 years.

BOUND TO RECOVER.

Patient: "Tell me candidly, Doc, do you think I'll pull through?"

Doctor: "Oh, you're bound to get well—you can't help yourself. The medical record shows that out of one hundred cases like yours, one per cent. invariably recovers. I've treated ninety-nine cases, and every one of them died. Why, man, alive, you can't die, if you try! There's no humbug in statistics."—*Lippincott's*.

CALENDAR OF LOUISVILLE MEDICAL SOCIETIES.

(FOR AUGUST.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton." (Does not meet this month.)

DR. E. S. ALLEN	-----	President
DR. S. D. WETHERBY	-----	} Vice Presidents
DR. M. F. COOMES	-----	
DR. CURRAN POPE	-----	Treasurer
DR. DUNNING S. WILSON	-----	Secretary

LOUISVILLE ACADEMY OF MEDICINE; meets at the Tavern Club, August 11.

DR. DUNNING S. WILSON	-----	President
DR. E. O. WITHERSPOON	-----	Vice President
DR. CHARLES FARMER	-----	Treasurer
DR. DAVID C. MORTON	-----	Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House. (Does not meet this month.)

DR. JOSEPH W. IRWIN	-----	President
DR. ARGUS D. WILLMOTH	-----	Treasurer
DR. H. J. FARBACH	-----	Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House, August 4.

DR. J. D. HAMILTON	-----	President
DR. R. A. BATE	-----	Vice President
DR. RICHARD T. YOE	-----	Treasurer
DR. W. O. GREEN	-----	Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club. (Does not meet this month.)

DR. L. P. SPEARS	-----	President
DR. CHAS. W. HIBBITT	-----	Treasurer
DR. EDWIN T. BRUCE	-----	Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, August 5 and 19.

DR. J. GARLAND SHERRILL	-----	President
DR. J. ROWAN MORRISON	-----	Vice President
DR. FRANK C. SIMPSON	-----	Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn, August 9.

DR. I. A. ARNOLD	-----	President
DR. H. L. READ	-----	Vice President
DR. JOHN K. FREEMAN	-----	Secretary and Treasurer

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Danville, Ky., November 17, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 11, 1910.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., August 17, 1910.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Paris, Ky., October, 1910. (Exact date not determined.)

KENTUCKY STATE MEDICAL ASSOCIATION; meets at Lexington, Ky., September 27-29, 1910.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., 1911.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally also, a downright fact may be told in a plain way, and we want downright facts at present more than anything else."—RUSKIN

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript.

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 222 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., SEPT., 1910.

No. 9.

Original Articles.

DIARRHEAS OF INFANCY AND CHILDHOOD.*

By H. L. READ, M.D.,

LOUISVILLE, KY.

Diarrhea is not a disease but a symptom, and may be met in every degree of severity, from a mere looseness of the bowels to a profuse watery discharge.

It is also a term used to designate all conditions arising from an increased secretory or motor activity of the intestinal tract.

Infants and children are peculiarly susceptible to diarrheal disorders, which in them tend to run a more severe course, and to terminate more often fatally than in the case of adults.

It is difficult and probably impossible to make a scientific classification of the diarrheas of infants and children, either from the pathological anatomy, as some are functional and leave no lesions; or from the bacteriology of the discharges, as some diarrheas are not of

*Read before the West End Medical Society.

bacterial origin. Therefore, for convenience, we will use the following classification:

1. Acute.
 - (a) Non-infectious.
 - (b) Infectious.
2. Chronic.

Acute Diarrhea.

We will consider first what we term the predisposing causes, such as age, season, surroundings, constitution and dentition. In reference to age, Holt gives records of three thousand cases as follows: "Under six months, 14 per cent.; six to twelve months, 29 per cent; twelve to eighteen months, 24 per cent; eighteen to twenty-four months, 17 per cent; over two years, 16 per cent." Showing that the greatest susceptibility is between six and eighteen months, and that four-fifths of all cases occur before two years of age.

It is during the hot months of summer that intestinal trouble is most prevalent. The enormous increase in the number of cases occurring during the summer months does not have reference to any single form of diarrhea, but to all forms.

Diarrheal diseases are especially frequent among the poor, and in the cities; yet it is not exclusively a disease of the city and poor, for it is found among the wealthy people, and in all places.

Uncleanliness of children, especially clothing and napkins, unsanitary condition of houses, neglect and bad surroundings all predispose to this dread disease, as do rickets, syphilis, tuberculosis and malnutrition. The cutting of teeth is closely associated with diarrhea, as the bowels quickly become normal as soon as the teeth have pierced the gums.

(a) *Non-infectious Diarrhea.* Results from partly cooked cereals, the coarser vegetables, unripe fruits, nuts, etc. The various drugs, which in adults produce diarrhea, do not frequently come into question, but too drastic purgatives often cause diarrhea. As extreme heat is the all-important cause of summer diarrheas, so is a sudden drop in temperature a fruitful source of this disorder.

Fright and surprise may cause slight temporary diarrhea. Fatigue arrests digestion and so causes diarrhea.

(b) *Infectious Diarrheas.* In the diarrheas above mentioned there are no lesions and the bacteria found in the stools are the normal bacteria of the intestines. All infectious diarrheas are associated with some anatomical lesions, the extent and severity of which depend upon the nature and degree of the infection and the duration of the process. It is this form of diarrheal lesions that bacteria or their toxins make their way into the general circulation by direct introduction into the alimentary tract of infection, such as the saprophytic bacteria, pneumococci, streptococci, etc.

It is not necessary for poisons to be introduced as such from without, but while the heat arrests all digestion, putrefaction produces toxic material which is duly absorbed. Thus, any cause of arrest of digestion may become the cause of acute gastro-enteric infection.

Therefore infectious diarrheal disorders are that group of cases which show congestion and often exaggerated functions, resulting in mucus, blood, and shedding of the epithelial lining of the intestines, superficial abrasions and deep ulcers.

Chronic Diarrhea.

Chronic diarrhea is usually the result of any lingering, obstinate, acute case of the previous group, or it may result from months of indigestion with the irritation of poorly digested food particles.

In such condition fermentation is present, toxic material is constantly being absorbed and a mild chronic intoxication occurs.

Symptoms.—The symptoms of acute, non-infectious diarrhea are those of acute indigestion: such as colicky pains, distention and perhaps vomiting. Pain is indicated by the sharp, piercing cry, drawing up of the legs, nervousness and restlessness. Older children complain of pain at the umbilicus, which often precedes the diarrhea several hours.

The first stools are more or less fecal, but soon change to liquid, color first yellow, then yellowish green and finally grass green. Stools increase in number from four

to twelve a day, reaction almost invariably acid, odor sour, and often foul; no blood or mucus unless the symptoms have lasted for several days. The previous condition of the patient and the treatment employed have much to do with the termination of the disease.

In the mild cases of the infectious diarrheas the symptoms may be those of the previous group exaggerated and prolonged. Diarrhea may be the only symptom for several days. The parents ignorant that their child is seriously ill until it becomes very peevish and fever appears, then the physician is called too late to prevent systemic infection.

Increased diarrhea, high fever, rapid pulse, violent vomiting, beginning pallor and loss of weight appear as evidence of systemic disease. The child's age, constitution and nutrition largely determine the result. Often in spite of the best treatment, puny infants succumb in a short while. In case of recovery, the fever diminishes much more rapidly than do the local manifestations, such as less frequent stools, diminished tenesmus, and the disappearance of blood and mucus.

Diagnosis.—The acute diseases of infants and children in summer are frequently ushered in by acute gastro-enteric symptoms. Especially is this the case in pneumonia and tonsilitis; hence in every case, a complete examination of the chest and throat should be made.

The milder cases can be readily diagnosed from the symptoms already given. Those of the severe types, such as ileo-colitis, can be recognized only after a lapse of several days, by the continuance of temperature and the appearance of blood and mucus in the stools.

Cholera infantum can usually be recognized by the severity of the general symptoms. The onset of typhoid fever may be accompanied by diarrhea; but this disease is not so common in infants and children, unless the disease is epidemic; then the Widal test may be resorted to.

Intussusception may be confounded with ileo-colitis, but is usually distinguished by the absence of elevated temperature for the first few days of the disease.

Prognosis.—In non-infectious cases the prognosis is

invariably favorable except in-so-far as they open the way to general gastro-enteric infection.

The prognosis in the infectious forms depend on the general condition of the child, the virulence of infection and the efficacy of both hygiene and medicinal treatment. In young infants the infectious diarrhea is an extremely serious matter, and guarded prognosis should be given.

Complications.—No complications are met with in the non-infectious forms of diarrhea.

Broncho-pneumonia is considered the most common complication of the infectious form. Other complications are cerebral congestion and parenchymatous nephritis.

Hygienic Treatment.—This is the age of hygiene and sanitation. To just what extent it has reduced the mortality is hard to say. We do know that there has been much more work done in the last decade along these lines than in any previous decade.

Holt, in *A. M. A. Journal* of Feb. 26, 1910, says: "One third of all deaths occur before the first ten years." Literature tells us that the deaths of infants under one year of age form, at the present time, in all civilized countries, from 20 to 25 per cent. of all deaths. Medical science shows that over one-half of the deaths in the first decade are preventable. Therefore it is a day of prevention. Since this has been proven, our duty is clear. The doctor alone must not bear the whole burden; the people themselves must take their share of responsibility, and give intelligent co-operation in order to save the infants and children of our country.

Fresh air is of the greatest importance in all these cases of diarrheal disorders. Patients should be kept out of doors as much as possible; if this is impossible, the room should be made light, airy and cool. Neither should the infants be petted or handled, but left alone in bed or cradle.

When proper treatment has been used without result, the patient should have a change of air, such as country, mountains, or seaside.

Clothing should be made of the thinnest and coolest material. The sick room should be thoroughly clean and

diapers should be removed from the room immediately and placed in a disinfectant solution.

Bathing is most excellent to allay nervousness and reduce temperature. In high temperature the cold pack, or tub bath, should be employed. The temperature and time given to either should be governed by the condition and temperature of the patient. Excoriation of the buttocks and genitals should receive careful attention. These parts should be carefully washed in weak bicarbonate of soda solution, and carefully dried with soft goods and dusted with borated talcum.

The diatetic treatment in all forms of acute diarrhea of infants and children; food should be withheld for the first twenty-four to forty-eight hours. Digestion and assimilation are more or less arrested at this time, and food, instead of being of assistance to the child, can only do harm. For the first twenty-four or forty-eight hours, liquid peptonoids, panopepton, chicken broth, etc., may be given at intervals of two hours. Milk diet should not be given until the stools become normal; then the fat and casein should be reduced. The food employed should be the most nourishing, easily digested, and should leave the minimum residue.

The amount of food in such cases should be one-quarter to one-half of that given in health.

In recent years the establishment of properly managed milk laboratories in the large cities has solved the most difficult problem that has confronted the general practitioner. Dr. Galor, of Rochester, N. Y., made this statement in a recent issue of "*Archives of Pediatrics*": "In the thirteen years from 1884 to 1897, inclusive, during which no systematic milk work was done, the total number of deaths in Rochester under one year of age was 6,306; the deaths between one and five years of age, 3,304, making a total of deaths from birth to five years of age 9,610.

For the thirteen-year period from 1897 to 1909, inclusive, the total deaths under one year of age were 4,641; and the deaths from one to five years of age, 2,080, making a total of 6,721.

In the first period not all the deaths were reported; in the last we have reported the death of every child born at term who breathed. The mortality between birth and five years of age shows a diminution of 30 per cent. in the last period."

Medicinal Treatment.—The first indication of medicinal treatment is to evacuate the entire digestive tract. The vomiting probably has emptied the stomach; some simple emetic, such as ipecac or zinc sulphate may be given older children; in infants nothing is so important as stomach washing.

If this is impossible, large draughts of water may be administered. Castor oil should be given when vomiting is not a marked symptom, as it acts promptly and the after-effects are soothing.

In case of vomiting, calomel is preferable. Two grains may be given at one dose or one-quarter grain every hour until the characteristic green stools are seen.

This has a favorable effect on the vomiting and also acts as a disinfectant and purgative. If vomiting and frequent stools continue, the stomach pump and colon tube should be used.

Antiseptics and Astringents.—Some authorities claim that the intestinal antiseptics are of no value in diarrhea of infants and children. The writer cannot agree with them. Probably the best of these drugs are salol, resorcin, sulpho-carbolates, carbolic acid, and salacyleate of soda. The writer considers salol the best and gives it in one grain doses, every two or three hours to a child of six months.

The most useful of all drugs in diarrhea of infants and children is bismuth.

The sub-gallate may be given in doses of 2 to 5 grs. every three hours to children of one year of age; the salicylate in doses of 1 to 2 grs.

The sub-nitrate is considered the best preparation given in doses of grs. 5 to 10 every two or three hours.

The sub-nitrate in doses referred to in combination with tannigen in doses of grs. iii, has proven very successful, especially when the diarrhea tends to become chronic. Bismuth should be given in sufficient doses to blacken the stools and keep them of that color. Hydro-

chloric acid is often of distinct value in chronic cases. It is best administered in combination with pepsin, lacto-pepsin, etc. Opiates are often required when pain, tenesmus and frequent movements are marked. Until the intestinal canal has been cleared by purgatives or irrigation opiates should always be withheld and the dose and frequency of administration should be governed by the number of stools. Paregoric and Dover's powders are the best preparations. The former should be given in doses of gr. $\frac{1}{4}$ at short intervals, to a child six months old, until the desired effect is produced.

The pathological process is principally in the colon, and mostly in the lower half. It can much better be treated by injection than by drugs given by the mouth.

For general purposes an injection of normal saline solution at temperature of 100° to 104° F. should be given high into the colon through a long rectal tube.

If an astringent injection is necessary, tannic acid one drachm to one pint of water is to be preferred.

In cholera infantum, besides the treatment referred to, we often find it necessary to give morphine gr. 1-100, and atropine gr. 1-800, to a child one year old and to repeat at frequent intervals.

To replace the watery drain, intra-cellular injections of normal saline solution are indicated. Here one-half pint may be injected into the thigh, buttock, or the cellular tissue of the abdomen.

Ice cold water irrigations of the colon give good service, and the ice-cap should be used to reduce the temperature.

Stimulants.—Camphor water, aromatic spirits of ammonia and caffeine in the form of cold tea or coffee, whiskey and brandy.

The daily quantity of whiskey or brandy should never exceed drachms two to drachms four per day, and either should be given in sterilized water or albumen water.

LIQUID CARBONIC SNOW.*

BY WILLIAM S. ENRICH, M.D.,

EVANSVILLE, IND.

To Dr. Pusey, of Chicago, belongs the credit of having first used liquid carbonic snow in dermatology and having found a substitute for liquid air, which had been used experimentally on certain skin lesions.

Liquid air, on account of its unstable character and difficulty of preservation and handling, along with its great cost, was found to be utterly impractical for general use.

Then followed ethyl and methyl chlorides. They being more or less successful, further effort was made to find a substance which would have the chief characteristic of liquid air, its intense coldness.

Carbon dioxide snow is very easily obtained and in contra-distinction to liquid air, the tanks of gas can be kept indefinitely. It is reasonable in price and can be easily handled.

The method of making the snow is simple, the principle being condensation of the gas on a suitable surface. After being made, it is gathered and moulded or shaved into suitable shape and size. Care must be taken by the operator to protect himself lest frost-bitten fingers result.

The snow is applied directly to the surface to be treated, some pressure being used. In growths larger than the thumb nail, the writer would prefer treating several small areas, leaving untouched portions between.

After the exposure, the area treated is depressed, white and solid, but in a short while it thaws out and becomes elevated and after several hours is covered with a vesicle containing clear aseptic serum.

The length of time required varies with the age of the patient and the location of the lesion, no hard and fast rules can be laid down. It averages between ten and forty seconds.

Another method of applying the snow is to attach an apparatus to the tank and apply the gas directly. The

*Read before the Vanderburg Medical Society.

writer has never used this, as he considers it too dangerous, since absolute control cannot be had of the destructive action.

As to the use of the snow, like the X-ray, we are prone to consider it a cure-all, but since it is of so recent advent, there has hardly been enough time for the exact status of this valuable agent to be established.

Among the diseases in which its use has been commended are vascular and pigmented naevi, lupus erythematosus and vulgaris, tattoo and gun-powder marks, chloasma, lichen planus and ruber, and epithelioma.

Dr. Heidingsfeld has shown in two articles the final results in treating lupus erythematosus. These he does not consider encouraging as to permanent cure. All these cases, however, show temporary improvement. The same holds good for lichen ruber.

Since experiment has shown that the exposure of various micro-organisms to the snow is only inhibitory to their growth and not lethal, I am inclined to think that this is the reason for the temporary good results in lupus.

Much has been written recently about the use in epithelioma. The writer thinks that this will be a very useful means of treating epithelioma before they have started to spread widely and deeply—the so-called benign variety—that are sometimes amenable to pastes and other palliative treatments. However, in the malignant types the writer believes that the snow would be of advantage in relieving the pain, hemorrhage, etc., and checking the spread.

In powder marks, especially where the penetration is only superficial, when the vesicle ruptures many of the grains are extruded with the serum. I have never seen it used in tattoo marks but am sure of its usefulness in this field even though it may have to be pushed to destructive action.

In chloasma the slightest action is necessary, mere enough to cause desquamation.

The best results are obtained in the treatment of naevi, both pigmented and vascular. The principle upon which the snow acts in the vascular is by causing an inflammation within the vessel—an endoarteritis—which

blocks the vessel and thereby destroys the mark. In the pigmented by causing a vesicle which elevates the rete Malpighii in which is contained the pigment cells.

The most satisfactory case treated by the writer was in a six weeks old baby who had a bright red naevus in the center of her forehead, two applications of fifteen seconds duration served to entirely obliterate the lesion with apparently no scar; there is, however, a pink surface where the blister was situated which like that of any other blister will whiten in time.

In the adult the results are not so satisfactory as with children. In one case of a very large naevus extending from the bridge of the nose to one inch beyond the hair line on the scalp, the result was satisfactory in so much that the color was changed from a red to a light pink, but it probably will never be perfectly white. In this case, however, before he came under my observation every thing had been used on the lesion from the sun-glass and tattooing with nitric acid to Christian Science and therefore it was in poor condition to be worked on.

In conclusion I would say:

That carbon dioxide snow bids fair to become a very useful therapeutic agent.

That it is of value in the treatment of lupus and epithelioma.

That its use in treating naevi is par excellent.

That it is not without danger both to the patient and the operator.

309½ Upper Second Street.

A SHORTAGE IN DIGITALIS—HOW SHALL WE MEET IT?*

By GEORGE L. SERVOS, M. D.,

FAIRVIEW, NEVADA.

There is, and has been for two seasons, a shortage in the crop of English digitalis, and the manufacturers are finding it a hard matter to fill orders for products manufactured from this crude drug. Not long ago, in placing an order for supplies, I included two special formulas in which digitalin figured and both items were back

*Written for this Journal

ordered. After waiting a reasonable length of time for these goods to reach me, I wrote the house asking the reason for the delay and they advised me that they were unable to obtain sufficient digitalin to take care of their orders, much less carry any stock of goods in which this drug entered. If this is the case with one pharmaceutical house, it must be true of all others, and if digitalis products are being made from the domestic leaves, which are totally devoid of activity, or of the German leaves, which are very variable and uncertain it is very probable that the drug will fall into disrepute because of its non-activity.

The doctor has been asked to employ only U. S. P. and N. F. products and it has been suggested that the druggist can make these by following the formulas laid down in the two works above mentioned. If the druggist had crude drugs of standard quality it is possible that he might make goods which would pass muster, but how about digitalis products at the present writing when even the larger manufacturing houses are unable to obtain the active English leaves? The manufacturer who is equipped to assay his finished products and to standardize them, may be able to employ the variable German leaf, but not so the retail druggist who is without a complete laboratory. Some of the smaller pharmaceutical manufacturers are in the same position as are the retailers, and through lack of equipment, may possibly market digitalis products, either partially, or wholly, lacking in activity.

Bearing these facts in mind, if the doctor employs galenic preparations of digitalis, he should be careful in knowing that he is supplied with only *standardized* products, and made from the English leaf, or if not, those made from the German leaf and thoroughly assayed.

Better still, when obtainable, the Germanic amorphous digitalin should be employed. This gives the same action upon the heart as do the galenic preparations and with greater assurance of the same action in all cases. There is absolutely no variation in the strength of this product and the dosage is invariable. The action of this isolated principle is first a slight vascular relaxation,

followed by a rapid tonic action upon the heart and that in turn by contraction of the blood vessels. Where only the diuretic effect is desirable, digitonin is applicable, so that with these two active principles we not only are supplied with dependable remedies, but those which fill all of the offices of the entire drug.

But with a shortage in the crop of English leaves, there follows a shortage in the stock of active principles on the market, for without the crude drug, the chemists are unable to manufacture the isolated active principles, and the matter of substitution become one of some importance. Owing to the fact that the crystallized digitalin is not as much in demand as is the amorphous it is possible that there is more of this product upon the market. But is this form of the drug applicable in all cases where the amorphous has been used? I think not. It has a decidedly stronger heart tonic action and the vascular contraction is much greater than that obtained from the amorphous form. In addition, the action of the crystalline form persists for some time, while that of the amorphous passes off very soon after the drug is discontinued. The action of the crystalline form is so marked that Huchard says that it should only be employed once in six weeks.

Strophanthin has been suggested as a substitute for the amorphous digitalin, but owing to the fact that the supplies of this drug are variable in activity, its use does not meet with the same success as follows that of amorphous digitalin. It exerts but little contractile force upon the blood-vessels, its main action being that of a cardiac tonic.

Adonidin is advocated by Heinrich Stern, who seems to prefer it to all other cardiac tonics, but the supply of this, like that of digitalin at present, is limited and the price is so high as to place it beyond popular reach. It is, however, worthy of trial because of the high recommendations of the authority above mentioned.

In remedial doses, convallamarin tones the heart and increases vascular tension, acting much in the same manner as does crystalline digitalin, while in toxic doses it has much the same action as has aconite, and because of

this it is a drug which should be employed with great care in all cases, and its action watched closely at all times while it is in use. It also acts to deepen respiration.

Sparteine is undoubtedly the best substitute we have for either the whole drug digitalis, or its active principles. The sulphate tones the heart, but relaxes, rather than constructs, the vascular system. It acts as a diuretic simply by raising the blood pressure and not through any direct action upon the kidneys. One great advantage in the use of sparteine sulphate is that it has not cumulative action and that it may be employed, because of this, over a very considerable length of time without fear of any untoward action.

Cactin, in some selected cases forms an admirable substitute for digitalis and its active principles, but is not applicable in all instances. It is useful in inequalities of the circulation, which it acts to steady.

Small doses of caffeine increase vascular tension, while large ones are depressant. This drug has other actions which interfere with its continued use as a substitute for digitalis or digitalin.

Strychnine may, in some cases, be employed as a substitute for digitalis and digitalin, but it is obvious that in many other instances its use is contraindicated.

Atrophine has more or less tonic action upon the heart and vascular system, but this is not a digitalis action, and consequently it can hardly be considered as a substitute.

Cocaine, under certain circumstances, stimulates cardiac action, but not in the same manner as does digitalis, and being a habit-forming drug, it is not one to be employed without great consideration.

It will be seen from the above that we have no absolute substitute for digitalin Germanic, or, in fact, for other digitalis products, and bearing the fact in mind that there is shortage in the supply of this most important drug, the doctor should be extremely careful in his selection of products from this drug. If he does not employ the isolated active principles, he should insist that the goods furnished him be assayed and of absolute active

principle strength in every instance, otherwise, if an inferior product is employed, the results may be disastrous. This is *time to be careful*.

WARM VERSUS COLD ANESTHESIA.*

By W. A. ONDERDONK, M.D.,
LOUISVILLE, Ky.

Doubtless from the beginning man has possessed some means for the relief of pain. From time immemorable in the East, the soothing properties of opium and Indian hemp have been known. But of all the drugs known as anesthetics to the ancients mandragora seems to have held first place and was used by the surgeons during the Christian era.

For anesthetic purposes mandragora was infused in wine. The wine mixed with myrrh was often given to those about to undergo crucifixion, and was that possibly offered to Christ on the cross.

The earliest reference to the method of producing an esthesia by inhalation is found in the works of Herodotus, who tells of the Scythians producing intoxication by the inhalation of the vapors of a certain kind of hemp. Coming to more recent times, we find that in 1798 Sir Humphrey Davy cut a wisdom tooth under nitrous oxide gas. For a long time it was known that inhalations of nitrous oxide gas or of ether vapors, would produce an esthetic conditions, but it was only after American physicians had demonstrated practical working methods, that these anesthetic agents were given the universal use they receive to-day.

Without a reliable anesthetic, where would our surgeons be; we would hear nothing of the wonderful work they are doing. But they would be groping in the dark and performing only the minor work, — such as opening boils and occasional amputation; but to day, thanks to a drug that robs the patient both of the sense of pain and consciousness, the surgeon unhesitatingly dares to attack the most vital parts of the body.

And while surgery has progressed in such strides, what has the anesthetist done? Has his art been advance

*Read before the West End Medical Society

ing? Has he devised means safer and more pleasant for the patient? I regret to say that anesthesia to-day as is generally given, is little in advance of what it was fifty or sixty years ago. The same unpleasant suffocating sensation in the beginning of the administration, and the same deadly nausea and vomiting at the regaining of consciousness.

The anesthetist of America, while he blazed the way and opened up the roads in the early periods of the work, have allowed both the French and English to pass him in recent progress—in the administration of anesthesia, and I believe it is due to the fact that in these countries the professional anesthetist has long existed both in private and hospital practice, in this way stimulating investigation and perfection of methods.

But of late years the American profession has awakened to the necessity of advancement in this branch of our work and men are devoting themselves to the study of anesthetics, the administration of and sequella of anesthetics.

It is a broad subject, with many complications. The writer wishes to consider one, in this paper, which is at this time attracting considerable attention, that of warm versus cold anesthesia.

It now seems strange that this subject had not earlier attracted attention, when we call to mind our teachings in physiology that "whatever may be the temperature of the air when inhaled, it acquires nearly that of the blood before it is expelled from the chest." (Kirk.)

We would consider it criminal neglect if patient was not carefully covered with blankets and room warmed to prevent chilling, and then we failed to protect the surface of the lungs, which is many times greater than that of the skin, from inhalations that are often near to freezing point, for unwarmed ether vapor is near to freezing, as nearly every mask that is used to administer ether by the open method, clearly demonstrates; and the other agents, chloroform, etc., are only a little higher in temperature.

At present date we have little positive knowledge as to what this chilling of the body may produce, but we

fear that were the truth known, many patient has successfully passed through an operation to later succumb to effects of the anesthetic.

In using cold anesthesia the patient undergoes a certain amount of refrigeration, to bring the inhaled vapor to blood temperature before it can be absorbed into the blood to be carried to the nerve centers, and this refrigeration is at a time when the body is not able to stand this extra strain; but if warmed vapor is used the patient is spared this additional strain.

As vapor must be warmed to be absorbed into the blood stream, then by using vapor that has previously been warmed a quicker effect is obtained and less anesthesia used. By warming the anesthesia we save the pulmonary tissues from this refrigeration, therefore lessen the possibility of pulmonary complications, bronchitis, pneumonia, or what not.

With all the administrations of warmed anesthetic vapors I can find no record of acid intoxication and late poisonous effects as noted by Arthur D. Bevan and Henry B. Favill.

Cold vapors excite the glands of the buccal cavity to greater activity than the warmed vapors, and as the swallowing of this saliva laden with the anesthetic vapors is the chief cause of post-anesthetic nausea, then by using the latter method we lessen the nausea, which is a great comfort to the patient. Some authorities claim that by using the warmed vapors that nausea is entirely eliminated, but the entire elimination has not been my experience.

Dr. James T. Gwathmey has made extensive investigations with warmed vapors, and finds that besides being more pleasant to take, that it is $2\frac{1}{2}$ times safer than when the same anesthetic is used cold, and this alone should commend it for more general use.

To recapitulate, we find by using warmed anesthetic vapors instead of cold we have (1) less refrigeration; (2) less nausea; (3) use less anesthesia; (4) lessen possibility of pulmonary troubles; (5) and it is less dangerous.

The greatest, if not the only disadvantage, to using this method is that some kind of an apparatus must be

used, and there are several on the market, thus incurring some expense for the purchase of same and the trouble of moving it from place to place; but I feel that the safety and comfort of patient more than compensates us for this inconvenience.

I would be glád to take up other subjects on the improvement in administering anesthetics, such as administration of known percentages, the elimination of re-breathing, and the use of nitrous oxide, both as a general anesthetic and as preliminary to the use of ether or chloroform, and the necessity of always having oxygen at hand for emergency. These are all interesting subjects, and show the advancement in this branch of work, but time forbids me giving them place in this paper.

And I believe that though the American anesthetist has not in the past few years done as much as some of our foreign brothers, that now that his interest has been aroused, that within the next few years, due to his energy and inventive genius, he will lead the world.

EARLY DIAGNOSIS.*

BY J. D. HAMILTON, M.D.,

LOUISVILLE, KY.

When we take into consideration the number of people that are dying daily, who could have been cured, or at least the disease held in abeyance for a long time, if an early diagnosis had been made, the importance and value of an early diagnosis is universally recognized and accepted. Irrespective of the name or nature of the disease, the earlier it is diagnosed the more surely we can adjust an efficient treatment to aid nature in its reparative endeavors. We speak of incipient diseases and again of diseases in their incipency and lament the vexing conditions that surround their speedy recognition.

I cannot hope to give this distinguished company any specific suggestions as how to best overcome these vexing conditions other than what they already know, but

*Read before the Louisville Society of Medicine.

believing this subject to essentially and properly belong to the foremost duties of the general practitioner, is my reason for selecting this subject for your thoughtful consideration.

The great and rapid strides that practical and theoretical medicine has made in the last twenty-five years has made it difficult for the general practitioner to keep abreast with the progress of medicine; he feels himself in an embarrassed and peculiar position. It has been truthfully said, "The specialists make the diagnosis and give the treatment and the trained nurse handles the patient; the general practitioner simply Master of Ceremonies, and with an aggrieved air laments his dethronement as trusted counsellor of the people. If this be so in this connection, let us ask the question, why? One explanation is, to my mind, very clear. Too many times the patient is referred to the specialist for diagnosis and treatment, a great opportunity having been lost for doing good by delay in giving useless drugs and then to make the matter worse, a commission or division of fees is demanded and accepted for such transfer. Can there be any wonder, if this be true, that the general practitioner has lost the influence that he once had? I certainly do not hold the specialist blameless who gives a commission, but it gives me a real heart-pang and blush of shame for the general practitioner who is so cheap and unworthy as to accept, much less demand, a division of fees. I detest "sham" above all things. I think that a man who has not sufficient courage and honor to render a bill in his own name for services rendered could not expect or merit the confidence of the profession or his patient.

You will please pardon this digression, but I take it that the general practitioner who is lamenting or engaged in such tactics as mentioned above is missing a great opportunity in not concentrating his thought and purpose in rendering himself more efficient in making an early diagnosis in all cases which present themselves for his consideration. This is essentially the duty of the general practitioner. He has the opportunity, and by doing efficient and scientific work in this line, may once more place himself in the confidence of the people and profession.

While this is unquestionably the age of the specialist, and to my mind justly so, there is a place in society for the family practitioner, and under precise conditions where he is in demand. Although a certain amount of material success is possible in the practice of medicine by symptomatic management without a clear knowledge of clinical pathology, the physician who aims to practice the Healing Art to the best advantage of the patient and with some degree of personal comfort and satisfaction, must be able to make a diagnosis. A thorough training in practical diagnosis is the basis of a successful medical career. Once properly learned it is never forgotten and as long as we are in active practice auscultation and percussion are and should be our daily routine work. Under all circumstances the general practitioner should direct his energies to making the diagnosis himself and formulating precise indications for treatment; his patient will understand that he cannot be a "Jack of all Trades" and perform everything, but they will expect him to make a diagnosis and suggest proper treatment. He must be able to make a local or regional examination, using such of the methods of the specialists which have become general property.

Modern diagnosis is based upon the recognition of symptoms, regional landmarks, and upon laboratory research. As diagnosis has become more scientific and exact, the art of medicine has become more practical, owing to the elimination of deductive reasoning. In place of the latter, laboratory methods, inspection, palpation, percussion, auscultation, direct view with specula, lens, X-ray, exploratory incision and puncture have furnished countless diagnostic possibilities and enable the practitioner to attain a high degree of precision. But it must not for a moment be inferred that the general practitioner must do all this work himself, for it would be an impossibility. Fine laboratory work is a specialty in itself, and all that is required in this line of the practical physician of to-day is the very gross urinary, blood and sputum tests, and stomach contents tests which can be made in short order. Everything else should go to the laboratory to be examined by experts, and the patient told to

pay for such examination and their importance emphasized. The value of laboratory reports depend upon the time, care and knowledge employed in making them.

We cannot all be great specialists. Some of us must concern ourselves with the humble affairs and minor details of the vast duties of our noble profession; but all of us may so perform our work, as to earn the scriptural plaudit of "Well done," and after all is such a life any less sublime than that of the departed great man who left his footprints on the sands of time. Every consideration that calls for early diagnosis from the physician, places upon him with equal-emphasis the duty to educate the laity on the supreme necessity of reporting all cases and doing so early.

The infrequency with which the incipient cases come before us and the frequency with which they evade detection when they do come, make it no easy task to make a correct and early diagnosis and yet it is as indispensable to the proper adjustment of successful treatment as is the sunshine and April showers to bring forth the sweet May flowers.

The general practitioner has wonderful opportunities now for improvement in diagnostic methods. In this day individual efforts count for but little. Organized co-operation is absolutely essential to attain the highest possibilities.

So let us stand together and pull together for a common purpose. "In union there is strength."

IN WHAT WAY CAN LARYNGOLOGY AID IN MAKING THE DIAGNOSIS OF INCIPIENT PULMON- ARY TUBERCULOSIS?

Wolff Freudenthal, New York (*Med. Rec.*, July 30, 1910), finds many atrophic and dry conditions in the nasopharynx, bleeding vessels at the vault of the pharynx, with an extreme pallor of the mucosa and the hard and soft palates in contrast with marked congestion lower down. Hypertrophies of the lymphoid tissues at the base of the tongue are seen. Thickening of the interarytenoid space is frequent. A paralysis of the nasal cord may be the only sign of tuberculosis.

Selected Article.

THE TREATMENT OF INEVITABLE AND INCOMPLETE ABORTION.

BY WILLIAM P. POOL, A.M., M.D.,
Brooklyn N. Y.

It is of importance in undertaking the treatment of abortion to learn first whether it be threatened and possibly preventable, or inevitable, or incomplete. In the early months the symptoms of these conditions are sometimes so nearly identical that accurate differential diagnosis is difficult.

The one constant sign is hemorrhage. Pain, cervical dilatation, appearance of the separated ovum at the outlet, or extrusion of part of the uterine contents are signs not always in evidence. Hemorrhage, even though profuse, cannot be depended upon as pathognomonic of inevitable abortion, for bleeding may occur from time to time throughout pregnancy without interfering with it. However, its long continuance must be regarded as significant and may demand emptying the uterus even when development of the ovum has not ceased. Pain is a variable symptom and may be due to other causes. A patulous os usually means the loss of the ovum, but such has been known to contract and pregnancy has gone on without event. The expulsion of part of the uterine contents is practically a certain sign of abortion, yet Charpentier and Playfair have reported cases in which particles of decidua were expelled without interrupting pregnancy. When the ovum can be felt through a partially dilated cervix, evidence of abortion is almost conclusive. But if, in the presence of one or more of these signs, there still be a doubt of the possibility of saving the pregnancy, valuable information may be had from bimanual examination of the uterus. This, if its contents be still intact and *in situ*, gives to the touch a sense of resiliency which is peculiar to the pregnant state, and which is better appreciated by experience than description. If the ovum be dislodged or broken up the uterus is found to be doughy, or intermittently contracting, or in tetanic spasm.

When it is certain that abortion is progressive and inevitable there are two indications to be met: 1. Emptying the uterus by the means of least danger and traumatism to the patient. 2. The restoration of the pelvic organs to their normal condition.

The dangers to be avoided are chiefly hemorrhage, infection, and subinvolution and subsequent displacement of the uterus.

Upon these facts all are agreed, but there is a difference of opinion as to the methods best calculated to attain the desired results. Whether it is better to follow an expectant plan in the hope that spontaneous evacuation will occur, or to institute radical treatment at once and remove the uterine contents by operation, is still a disputed question. Peterson refers to what he calls the normal mechanism of abortion, consisting in the complete expulsion of the ovum after a short labor, and argues that as it is the generally accepted rule in labor at term that no operation to hasten delivery is permissible except in the presence of certain well-defined indications, so in normal spontaneous abortion there is no reason why the same rule should not apply. That all obstetric operations, whether at term or before, increase the morbidity and mortality of the puerperium. Other writers, Lusk, Winekle, and Boldt concur in this opinion, and would delay any surgical interference until some indication, such as hemorrhage or infection compels it, believing that as a general principle these cases do better when left to nature; that those who have not been subjected to a forcible removal of the uterine contents are in the end in just as good health as those who have undergone operation; that retention of the decidua has little or no influence upon convalescence; that endometritis, chronic congestion, and displacement are not more frequent sequelae; and that subsequent functions, menstruation and child-bearing are not more likely to be interfered with. Their position is further supported by pointing to the possible dangers of intra-uterine instrumentation or manipulation.

On the other hand, it is held that when abortion cannot be prevented the patient is in constant danger from hemorrhage and sepsis so long as the products of conception remain in the uterus, and that on this account alone immediate intervention should be practiced. Further, it is believed that involution is more prompt and complete if a thorough emptying of the uterus of the ovum and *all the decidua* be accomplished at once; that menstrual disturbances and chronic lesions of the uterus and adnexa are less liable; that following sterility is not so frequent, and the risk of abortion in a subsequent pregnancy not so great. After contrasting the results of active and expectant treatment in a series of 242 cases, Edgar has stated the belief that early

curettage is less dangerous than abortion and its sequelae, and that hemorrhage and liability to infection are much less in the former than in the latter. Garrigues has said: "If left to itself, or improperly treated, abortion is a dangerous accident which often ends fatally, usually from the occurrence of hemorrhage or septicemia. More women die from abortion than from childbirth, even if the bungling operations of professional abortionists be not considered." Duhrsen and Fehling also have advocated immediate intervention.

Can abortion ever be regarded as a normal act? Can the rules which obtain in the evacuation of the uterus at term be equally applied to it in the early months? An examination of the conditions in these two periods must be convincing of the imperfect provision made by nature for casting off the uterine contents in early pregnancy, even if repeated experiences have not demonstrated the fact. The softer consistence and greater fragility of the ovum, the greater adhesion of the decidua, the comparative hardness of the cervix, and the deficiency in contractile power of the uterus, all predispose to imperfect abortion and the retention of a part at least of the ovum or its envelopes for an indefinite period. While it is true that nature is competent in many instances of spontaneous abortion to complete the act without intervention and without serious danger; yet in no case can such a result be confidently expected.

In the first month of pregnancy abortion often occurs without being brought to medical attention, and may even escape the knowledge of the patient. A missed period which is followed later by a more profuse flow with little or no pain is frequently regarded as a delayed menstruation and ascribed to some other cause. Many such cases recover promptly and without complication, as, owing to the small size of the ovum and the slight changes in the uterus, hemorrhage is not great and involution takes place readily. The only treatment usually required in these very early cases is rest for a few days, and no more radical measures need be employed unless bleeding be persistent. This exceptionally may continue as a result of chronic hyperemia and fungous overgrowth of the endometrium, when thorough dilatation and curettage is indicated.

From this time forward the symptoms are more pronounced and the dangers greater. Although hemorrhage is rarely severe enough in the first three months to be a menace to life, still it is

not infrequently so profuse at the outset as to cause faintness and loss of consciousness, and until the uterus is emptied, it is a constant danger. So long as the detached or loosened ovum remains in the uterus infection constantly threatens. There is no question but that fever, rise in pulse rate, pelvic pain and tenderness, which symptoms mean that infection has begun, are indications demanding interference. Why is it not reasonable to anticipate these conditions, and, by resorting to early intervention, remove their cause, rather than to accept the risks of operation at a later time when the patient may already be depleted by hemorrhage or the field invaded by infection? There are certain contraindications to immediate active treatment. The spontaneous expulsion of the ovum entire, together with the decidua, followed by cessation of hemorrhage and prompt retraction of the uterus, show that abortion is already complete and no local treatment is necessary. A careful examination of all clots and expelled particles should be made when possible, to determine if this be the case. Also, when abortion is inevitable but the cervix still remains so hard and undilated that it will not permit the easy passage of a well-developed fetus, it is best to wait, in the absence of signs of sepsis or alarming hemorrhage, till softening and relaxation of the cervix can be brought about. This is materially aided, and at the same time hemorrhage is temporarily controlled by a firm cervical and vaginal tampon. A narrow strip of moist sterile gauze is introduced into the cervix and the canal packed solidly. A wide strip of the same material is then carried into the vagina and placed round and round the cervix until the cavity is filled. The pressure and irritation of these tampons stimulate uterine contractions, help to soften and dilate the cervix, and make subsequent removal of the uterine contents quicker and easier. The gauze should be removed in from twelve to twenty-four hours, during which time the patient should be under intelligent observation lest bleeding continue, in which case further delay is not justifiable. If after twenty four hours the cervix be still insufficiently dilated it is usually not wise to wait longer, as spontaneous progress is likely to be slow or lacking.

Absolute rest and other measures which may have been employed in the hope of preventing abortion are no longer necessary. Drugs which have been given to lessen sensibility and allay contractions are now harmful and serve only to delay. In

their place, if medication be used at all, should be given something to stimulate muscular action, *e. g.*, ergot and strychnia. The lower bowel should be thoroughly cleared, and rectal irrigation with normal salt solution at a temperature of 120 degrees has proved a good uterine stimulant.

When the cervix has well dilated and the ovum has been partly expelled or presents to the examining finger in the lower part of the uterus, with or without serious hemorrhage or signs of sepsis, the best procedure is curettage. Removal of the ovum with the finger or with a forceps may be accomplished, but it is not a sure method of emptying the uterus of all its contents. The forceps will almost certainly leave something behind, and the gloved finger (the only sort that should be introduced into the uterus), while it is an excellent palpator, is a poor curette. Scraping the interior of the uterus with the bare finger nail is an unclean and unsurgical procedure and cannot be too strongly condemned. As the decidua vera separates from above downward, the curette is the only instrument that can properly insure its complete removal, but in conjunction with the curette the finger may be used to explore the uterine cavity for remaining particles of placenta or decidua. This examination is facilitated by forcing the uterus downward by suprapubic pressure so that the whole cavity may be reached.

It is best to make a thorough preparation, and to approach this operation with all the care that should be used in any surgical case. An anesthetic is desirable, as with improper equipment and a resisting patient, it is often impossible to be sure that the work is done completely. A large-size sharp curette is best in the majority of cases, though it is an instrument to be used with much care, and is contraindicated in some conditions. It should not be used when there is any suspicion of infection, particularly if this be of the streptococcic variety, as tearing away the endometrium and opening the way for lymphatic involvement in the deeper structures may do much more harm than leaving behind a part of the adherent decidua. In induced abortions, where septic organisms may have been carried into the uterus by unskilled instrumentation, this possibility should be especially borne in mind, and in such cases a dull curette is the safer instrument. A gauze sponge on a Keith forceps serves well to detach fragments in some cases and is a safe instrument in the presence of active sepsis. Curettage may be

followed by a douche of hot sterile salt solution, though this is not usually necessary. It helps to check hemorrhage if this be persistent, but is contraindicated if there be infection. Antiseptics are of doubtful value in the uterine cavity, and may be positively harmful. A uterine pack is not used except to control hemorrhage, as it is more likely to interfere with, than promote drainage. It does serve one purpose: that of carrying with it, upon its removal, small particles which have escaped the curette and the finger. However, these are usually cast off in the lochia without trouble.

Abortion is said to be incomplete when any portion of the ovum or decidua remains within the uterus. It may be incomplete from the start as when there is a sudden loss of amniotic fluid with or without the fetus, or it may become incomplete by the expulsion of a part of the uterine contents during contractions. The symptoms at the outset often do not differ materially from those of inevitable abortion, but there are certain characteristics by which it may usually be recognized. Fragments of the ovum may be discovered in the vagina during examination; hemorrhage is continuous; the uterus is boggy and the cervix patulous; the discharge becomes putrid and offensive. Long-continued bleeding after a supposed complete abortion should always lead to the suspicion that the uterus is not entirely empty.

When a part of the ovum is lost the uterus has not the same power of casting off the remainder that it has of expelling the ovum intact. Its contractions are less vigorous, it is depleted by hemorrhage, and may be further weakened by septic invasion. Exceptionally the uterus may retain a part of its contents for a long period without ill effects. The writer has seen one case in which a three months' placenta remained in the uterus for four months after a supposed complete abortion. There was no abnormal sign during this time but amenorrhea. More frequently, however, an incomplete abortion that begins as a clean case will develop septic symptoms unless treatment is instituted promptly. Owing to the inability of nature to take care of herself under such conditions, early active treatment is demanded in all cases of incomplete abortion. Drugs or tamponing the cervix and vagina are of no avail, and the only means of anticipating and avoiding the dangers of this state and its far-reaching sequelae are by the immediate removal of the remains from the uterus. Imperfect dilatation should not now be regarded as a contraindication.

cation to operating at once, as in the presence of a macerated ovum, valuable time may be lost while attempting to bring about natural softening and relaxation of the cervix. Here, too, preparation should be made with complete surgical care, and an anesthetic administered. If the cervix will admit the finger, it is well to palpate the uterine cavity first, to determine how much material it contains and upon what part of the wall it is adherent. Such knowledge is a valuable guide in using the forceps and curette. If the mass be considerable a Keith or placenta forceps is introduced to the point of its location and as much as possible is grasped and withdrawn. Repeated attempts of this kind will sometimes remove practically all the uterine contents with the slightest possible traumatism, but it is always best to go over the ground again with a large dull curette, and search for remaining particles, carefully avoiding all unnecessary injury to the endometrium. This is followed by cleansing with a dry sponge, and, as a rule, no drain is placed in the uterus. The cervix may not admit the finger or may be too tightly contracted to allow the passage of even a large-size curette, and it is then necessary to dilate slowly with a steel branched dilator. If still the finger cannot be introduced, evacuation must be accomplished without its aid.

When the uterus is clean, hemorrhage controlled, and the immediate danger of sepsis is past, there still remain certain considerations, both general and local, that should not escape attention. It cannot be doubted that many cases have passed into a state of chronic semi-invalidism as a result of neglect in the after-treatment, as well as from neglect and unwise delay before operation. That many of the ills that beset convalescence from this accident are preventable is amply demonstrated, and treatment should not cease until the patient has been restored as nearly as may be to her normal state. In the first place, her present condition must be looked to. If there have been profuse or long-continued hemorrhage to which is added the bleeding necessarily attendant upon operation, she may be found in a state of acute anemia and require immediate support and stimulation. This is best supplied by the infusion of normal salt solution by hypodermoclysis or enteroclysis. As much as a pint may be slowly injected into the loose connective tissue under each breast. An excellent rectal injection at the end of operation is half a pint each of salt solution and strong coffee, to which may

be added an ounce of whiskey. The long-continued rectal injection of salt solution after the method of Murphy has proved a good supporting measure. Ergot, adrenalin, and digitalis may be given hypodermically.

Involution after abortion is often a longer process than that following labor at term, and there is a greater tendency to displacement, congestion, and chronic inflammatory change of both the uterus and the adnexa. This is no doubt due in part to the fact that patients are allowed to get up too soon. Rest in bed from ten days to two weeks should be prescribed, and during this time periodic examinations should be made to determine the size and position of the uterus. A tendency to retroversion or retroflexion may be overcome by keeping the patient off her back, and having her assume the knee-chest posture for a few minutes several times a day. If the malposition persist at the end of a week more active measures will be required. With the patient in the knee-chest posture, the uterus is repositioned and fixed in its normal position by tamponade or, better, when the structures permit, it may be supported by a suitable pessary. This is the time for correction, while the uterine support are still relaxed, and this simple maneuver hastens recovery and prevents many succeeding ills, and possibly a future operation. Vaginal douches during the first week are not advisable, just as they are not advisable in the first part of the puerperium. But after this time a douche at a temperature of 120 degrees given slowly, with the patient in the recumbent position, and repeated two or three times daily is an aid to involution.

If, after the patient is up, she complains of backache, pelvic tenesmus, or leucorrhœal discharge, and examination show that the uterus is still large and soft and tender, or the parametrial structures thickened and sensitive, treatment by vaginal tampons should be carried on for a time until involution has improved and the uterine supports have regained their tonicity. The real value of such astringents and counterirritants as are commonly used may be questioned, but proper tamponade is a decided benefit at times when, owing to chronic inflammation and irritability of the pelvic organs, a pessary cannot be worn. Erosions about the os externum and in the lower cervical canal are well treated by applications of nitrate of silver or iodine.

In a healthy woman whose uterus is in its correct position and who is free from adnexal disease, such measures should be efficient to restore the pelvis to its normal condition. — *The American Journal of Obstetrics*

Society Proceedings.

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo., June 6, 7, 1910.

The President, Dr. Dwight H. Murray, of Syracuse, N. Y., in the chair.

The following is an abstract of the principle papers read:

PRESIDENT'S ADDRESS, "UNDERGRADUATE PROCTOLOGY."

By Dwight H. Murray, M.D., of Syracuse, N. Y.

After thanking the Society for the honor conferred upon him in making him President, he made some recommendations as to its future before taking up the formal subject of his address.

He considered that the American Proctologic Society stood for a high class of scientific work and the best that there is in Proctology. He believed that it would be for the best interests of the Society that the programs of future meetings should be made up of a symposium, or possibly two, with essays that shall treat thoroughly some selected subject or subjects, and that these papers should be written by men whose part in the symposium should be assigned to them by the executive committee. He suggested that the program should not be too crowded and that sufficient time should be given for a full discussion of every paper and subject presented.

He believed that a volume or year-book of the American Proctologic Society containing a symposium with additional papers of merit such as would be presented by experts in proctology, could be made of great value to the profession and would be sought after by general practitioners. He believed that it was of the utmost importance to the Society that the transaction be published yearly as it would be a decided step backward to omit the publication no matter what its cost might be.

A recommendation was also made regarding the limitations of the field of the proctologist. He believed it to be true that the ethical practice of proctology was too narrow a field in which the specialist could gain a competence. He, therefore, recommended that this Society take up the question of the limit of

proctology as a specialty and that it be changed to include diseases of the small intestines, in other words, that proctologists become—procto-enterologists, in this way every member of the specialty would be doing uniform work.

He then proceeded to take up the main subject of his address "Undergraduate Proctology." He believed that the specialty was rapidly assuming the importance which is its due, in spite of the opposition it has experienced from the general surgeons who have seemed to look upon it as an unwelcome invasion of their field.

He considered that one of the most important duties of the Proctologic Society was an educational one. He hoped that with the increasing appreciation and demand for this kind of special work, that the colleges would take up the subject in a manner which its importance demands, and that if the medical colleges did not educate the profession in this branch of medicine, the members of the Proctologic Society must do it. He put forth the claim that the field of medicine and surgery is too large to admit of any man becoming an expert in all branches. This is an age of specialties and the very limitations of a specialist make an expert of him.

He believed that proctologic teaching in colleges should be done by men learned in the specialty and not by general surgeons who only teach in a desolatory manner, so that when the students are graduated they go forth to the practice of their profession in fully seventy-five per cent. of the cases with little or no knowledge of this line of work.

He then proceeded to prove this point by a statistical report showing the answers to questions which he propounded in a communication to fifty of the most prominent colleges in the United States and Canada. The answers to those questions show conclusively that a very large percentage of the college faculties believe that proctology is of minor importance and that it is not necessary to give the student any special training in the subject.

In order to prove his point he found it necessary to communicate with a large number of physicians including specialists in various branches and men who had graduated during the years from 1873 to 1905. He sent communications to these men asking them to answer certain questions which would show whether they believed they would have been better prepared for their practice and have been better able to treat their patients, if they

had been given instructions in this line of work. Ninety per cent. of the physicians answered the questions in the affirmative, which he believed told the story from the standpoint of the physician. This gave him good comparison from the standpoint of the college faculty on one hand who feel that they know the subjects in which the student should be trained at the beginning of his life work, and from the standpoint of the physician on the other hand who is in the midst of his life work. These answers show that physicians believe that colleges should devote less time to major things in specialties and surgery, and instead give their students more definite and practical instruction in proctology.

Dr. Murray then presented the questions and answers from the college faculties and physicians in tabulated form. He did not claim that the work of the eye, ear, nose and throat or of any of the specialties was unimportant, but he did maintain that the time given to these specialties should be shared in a proper way with proctology, which would not detract from the importance of the older specialty but would recognize the importance of proctology. At the same time this would put the young graduate in possession of knowledge that would not only be of great value to him but of far greater value to his patients. There are certain common and important diseases in every specialty that the young physician is sure to meet and ought to be able to recognize.

He believed it to be the duty of the American Proctologic Society to foster sentiment in the profession and among college authorities favorable to the special teaching of proctology either separately or as a branch of general surgery. He did not deem it necessary that a special chair of proctology should be created, but that a course in proctology should be provided for under the chair of general surgery.

Dr. Murray believed that it would be wise for the American Proctologic Society to offer a prize of a substantial sum of money for the best original graduating thesis on a proctologic subject. The competition to be open to graduating classes of any college in the United States and Canada.

In conclusion the Doctor believed that the profession should offer more encouragement to specialties in all branches, especially to those who are willing to devote their time to a branch which has for some reason been neglected, as proctology has been. Then

it would be practically impossible for quacks and healers of various sects and isms to take advantage of our professional neglect, and use it as their opportunity to play upon the credulity and gullibility of human nature.

“REVIEW OF PROCTOLOGIC LITERATURE FROM MARCH, 1909, TO MARCH, 1910.”

By Samuel T. Earle, M.D., of Baltimore, Md.

The Committee on Proctologic Literature reviewed the following papers as worthy of the attention of the members of the Proctologic Society.

“The Treatment of Hemorrhoids by Zine-mercury Ionization,” by Dr. T. J. Bokeham, which appeared in the Proceedings of the Royal Society of Medicine, May, 1909, p. 135.

A paper by Dr. Herman A. Brav, in the Monthly Cyclopedic and Bulletin, May, 1909, p. 268. “The Importance of Careful Post-operative Treatment in Rectal Operations.”

A paper from the Albany Medical Annals, May, 1909, Vol. XXX, by Dr. George Blumer, New Haven, Conn. “A neglected Rectal Sign of Value in the Diagnosis and Prognosis of Obscure Malignant and Inflammatory Diseases Within the Abdomen.” The sign is spoken of as the rectal shelf, which is observed on making a digital examination of the rectum on the anterior rectal wall, from two to four centimeters above the prostate gland in males. This shelf is of almost cartilaginous feel which projects into the rectal cavity. In some cases the circumference of the rectum is involved in an annular zone of infiltration, more marked anteriorly and tapering off toward the posterior wall, a signet ring stricture, as Schnitzler calls it. The summary of his paper is contained in the following:

1. In certain forms of carcinoma of the abdominal organs, notably gastric carcinoma, and in some cases of tubercular peritonitis, implantation metastases in Douglas' pouch are common.
2. These metastases impinge upon the rectum and may perforate its submucosa, causing a peculiar shelf-like tumor on the anterior rectal wall, readily felt by the examining finger.
3. In cases of gastric carcinoma this may be an early metastasis, and occurs especially in males.
4. In such cases the primary tumor may be latent and the metastasis may be large enough to cause symptoms of obstruction.

tion. It has been mistaken at times for rectal carcinoma and has been removed as such.

5. The not infrequent occurrence of this rectal shelf makes it a diagnostic and prognostic sign of a good deal of importance, and warrants the statement that in no case of obscure abdominal disease should a rectal examination be omitted.

Dr. W. I. DeC. Wheeler, in the *London Lancet*, March 6, 1909, gives excellent reasons for always using the abdominal route, or a combined method for incision of carcinoma of the rectum, whenever the malignant growth is three inches or more above the sphincter.

The technic for Excision of the Rectum in Procidencia, as given by Dr. John H. Cunningham, Jr., Boston, Mass., *Annals of Surgery*, May, 1909, is referred to and favorably commented upon.

Dr. A. L. Wolbarst's improved rectal irrigating tube is referred to. A description of the instrument may be found in the *Journal of the American Medical Association*, July 31, 1909.

“THE USE OF QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC IN ANO-RECTAL SURGERY.”

By Louis J. Hirschman, M.D., of Detroit, Mich.

Dr. Hirschman presented to the Society, a report of his work with quinine and urea hydrochloride as a local anesthetic in ano-rectal surgery. The cases operated upon were as follows:

Acute Thrombotic Hemorrhoids 10; Internal Hemorrhoids 22; Abscess peri-anal 7; Fissure-in-ano 7; Excision of Scar Tissue 3; Ball's Operation (Pruritis ani) 2; Hypertrophied Papillæ 16; Inflamed Morgagnian Crypts 4; Total 102.

He reported perfect results as far as operative anesthesia was concerned in every case, and in but seven cases was there any post-operative pain. He uses the one per cent. solution of quinine and urea hydrochloride in all of his cases of ano-rectal surgery, where suturing of the skin is not required.

The technic of administration as employed by Hirschman is the same as that used with weak solutions of cocain and eucain. He describes this technic in detail. He believes that the substitution of quinine and urea hydrochloride for any of the other anesthetic salts hitherto employed will be found eminently satisfactory in all cases of ano-rectal surgery, where suturing of the

integument is not required. He sums up its advantages over the other anesthetic drugs as follows:

First:—It is soluble in water.

Second:—It can be sterilized.

Third:—It is equal to cocaine in anesthetic power.

Fourth:—it is absolutely non-toxic.

Fifth:—It has a pronounced hemostatic action.

Sixth:—Post-operative anesthesia lasts from four hours to several days.

Seventh:—It is inexpensive and most always available.

“ATONY OF THE RECTUM.”

By William M. Beach, M.D., of Pittsburg, Pa.

Dr. Beach stated that atony or sluggishness of the rectum signifies the inability to expel its contents by reason of impaired musculature, ligimentation or innervation, and further that the musculature in the rectum proper, or that portion above the plane of the levator and is entirely involuntary whose inertia must therefore be due to some inherent factor.

On the contrary, the anal canal, which is made up for the most part of the voluntary fiber has most to do with the expulsive act, the formal function of which depends chiefly upon the muscular automaton that is intact, proper innervation and psychic influence.

The physiologic rectum depends upon (1) an unobstructed canal (2) firm ligaments, and (3) a well-developed rectal sense residing in the anal canal. Factors contributing to atony are (a) Traumatism to the perineal body, (b) disease in the anal canal, (c) Enteroptosis secondary to general systemic conditions or local anatomic anomalies, (b) the abuse of injections and drastic catharsis, (e) disease in adjacent organs, as prolapsed uterms, adhesions, neoplasms, appendicitis, prostatitis, circulatory disturbance as engorged portal vessels and primary gastric diseases, (f) atony may be the sequel to luesis or senility. The treatment is that of constipation being guided by the cause. Alterative, dietetic and mechanical agencies are to be invoked.

Recent Progress in Medical Science.

SOME REMARKS ON DEAF-MUTISM.

E. W. Scripture, New York, (*Med Rec.* July 23, 1910), says that deaf-mutism is a total or partial deafness with a failure to learn to speak; it is not a defect of the speech mechanism. It frequently follows scarlet fever and other infectious diseases. In the treatment of these unfortunates mental awakening is the first step. This is accomplished by exercises in which the child follows the movements of the teacher. The child is then taught breathing through nose and mouth, positions of the tongue in speech, and tongue gymnastics; tongue training is then given preparatory to consonant sounds, vibration of the vocal cords, the physiological alphabet, reading combinations at sight, and last of all lip-reading and sentences. Unusual characters of the voice are avoided in those who have learned to speak before becoming deaf and have not entirely lost it.

NASAL DIPHTHERIA.

Dunbar Roy, Atlanta, Ga. (*Journal A. M. A.*, August 6, 1910) reports a case of nasal diphtheria in which the patient succumbed to excessive epistaxis. If he should ever be so unfortunate as to have another such case he states that he would change the management and rely on epinephrin solutions. Every plug introduced into the nose only makes the conditions worse. The proper course to pursue would have been to perform tracheotomy on first recognizing the condition. It teaches that tracheotomy is preferable to intubation in all cases complicated with severe epistaxis, as if bleeding should occur posteriorly without the knowledge of the attendant, it might enter the larynx and choke up the lungs. The author also speaks of the chronic form of nasal diphtheria in which persistent nosebleed may be the only symptom to attract attention. The child will seem to have a bad cold in the head, a slight purulent discharge from the nose, and possibly enlargement of the submaxillary glands. Rhinoscopic examination will show a distinct membranous deposit which, with the attendant swelling, may almost block the passage. An attempt to remove this membrane may cause a serious hemorrhage.

Such children often continue to go to school and are a danger as diphtheria carriers. We must recognize, however, that a certain lowered vitality and a surface alteration affording lodgement for the infection are also necessary, or we should see many more cases of diphtheria than we do, as it has been demonstrated that diphtheria carriers are common. Roy reports a case in which such an infection, that might have passed unnoticed, was the cause of true pharyngeal diphtheria in another patient. We must recognize, he says, "the multiform manifestations of diphtheria wherever there is a mucous membrane; and whenever a child continues to have a cold in the head with excoriations at the muco-cutaneous surface and occasional nose-bleed we must look on this condition with suspicion."

ON THE AFFECTIONS CLINICALLY SIMULATING
TYPHOID FEVER, WITH ESPECIAL REFER-
ENCE TO AND REPORTS OF CASES OF
BRILL'S DISEASE.

H. Fred Lange Ziegel, of New York, (*Med. Record*), says that the acute infectious diseases that sometimes assume the clinical picture of typhoid fever temporarily are miliary tuberculosis, septic endocarditis, malaria, influenza, and meningitis. A tentative classification of diseases that simulate typhoid is given thus: intestinal sapremia, *B. coli* infections, meat poisoning, paratyphoid fever, and Brill's disease. Intestinal sapremia gives constipation combined with headache, apathy, dry, furred tongue, prostration, and other symptoms. Colon bacillus infections give similar symptoms. Para-typhoid fever is indistinguishable clinically from typhoid, but bacteriologically can be separated conclusively. Immunity to paratyphoid is not caused by an attack of true typhoid. In Brill's disease no microorganisms are isolated from the blood. Clinical differences from typhoid are marked, and render the disease easy of recognition. The rash is profuse, in a single crop, appears first on the abdomen and back, and spreads to the chest and extremities. It is maculopapular in form, and has an oval, indistinct outline. Fever is abrupt, with chill; is highest in three days, and falls rapidly; headache, apathy, and prostration develop early. Nothing is known of the pathogenesis.

A USEFUL ACCESSORY IN THE TREATMENT OF VARICOSE ULCERS.

Eugene H. Pool, New York, advises (*Med. Rec.*, July 30, 1910) as an addition to the methods generally in vogue for the treatment of varicose ulcers, which are generally found so obstinate, on account of the maintenance of the upright position, the putting in place of the dressing after the patient has lain for a half hour on his back on a table with the leg elevated and the foot placed against the wall. This position empties the veins of blood, and causes the swelling of the limb diminishes. The ulcer is washed, dressed, and then the strapping and bandage replaced with the foot still elevated against the wall. The comfort of the patient is much increased and the healing of the ulcer is facilitated.

OBESITY: ITS RELATION TO OTHER DISEASES AND ITS SIGNIFICANCE; ALSO SOME OBSERVA- TIONS ON PROPHYLAXIS.

I. B. Kronenberg, Pittsburg, Pa., says (*Med. Rec.*, July 23, 1910) that faulty metabolism is the starting point in obesity and its kindred troubles, and proposes a plan of education of persons prone to fatness which shall reduce weight at the same time that it benefits health. Such persons should undergo a physical examination at least twice a year. Overweights are prone to disease of the arterial system, heart disease, apoplexy, and kidney diseases. As weight is reduced all these conditions are benefited. Errors of diet and living must be corrected, exercise and sleep regulated, and proper medication and physical treatment instituted. Noxious by-products of tissue combustion must be eliminated without strain on the organs.

THE THERAPEUTIC POSSIBILITIES OF DIRECT BLOOD TRANSFUSION.

John A. Hartwell, of New York, (*Med. Rec.* June 11, 1910), states that up to the present time no great benefit has been obtained in direct transfusion except in cases of hemorrhage. It holds out a promise of benefit in septic conditions and malignant

growths that has not yet been realized. In anemias the destructive agent acting on the blood cells is not removed and only temporary benefit results from transfusion. When we have secondary anemia due to hemorrhage or disturbance of the internal circulatory mechanism transfusion is of value. In tuberculosis it has so far proved of little value. It is somewhat difficult to obtain a donor.

REPORT OF THREE CASES OF TETANUS AND REMARKS OF THE TREATMENT OF THE DISEASE.

Charles D. Fox, Philadelphia, Pa., (*Med. Rec.* Aug. 13, 1910), describes three cases of tetanus treated by him. In the first the symptoms of benign tetanus appeared after an incubation of four days from a trivial wound. As soon as an injection of 3,000 units of antitetanic serum had been administered convalescence began, and ended in recovery. The other two cases were not remarkable and ended in death. The mortality of tetanus is greater when the incubation is short than when it is as long as ten days. The prophylactic treatment of wounds is of greater importance than the treatment of the disease after the development. In prevention the disinfection or excision of the wound is valuable, and an injection of antitetanic serum should be given of 1,500 units. The tetanus bacillus being anaerobic, wounds that are deep and narrow are especially liable to infection. In veterinary practice the serum has had even better results than in human tetanus. Tetanus is liable after operations which involve the intestinal tract, from bacilli that are already in the intestine. They pass through the intestine of the domestic animals without losing virulence, and may gain entrance by the ingestion of uncooked foods that have been grown in soil fertilized with manure. The serum is not as effective in cure as in prophylaxis, but it should always be tried, since it is absolutely harmless. Intracerebral and intraspinal injections have been tried with indifferent success. Subarachnoid injection of solution of magnesium sulphate will give absolute relaxation persisting for twenty-four hours, and this will save the strength of the patient who soon becomes exhausted by convulsions.

Surgical Suggestions.

When acne of the back does not respond to treatment, try a few applications of long strokes with the Paquelin cautery. The results are often excellent.

In the presence of a swollen, ulcerated tonsil or of swellings in the pharynx of some duration, look for evidences of leukemia.

Bilateral, large, smooth swellings of the tonsils should arouse suspicion of Hodgkin's disease.

A deep swelling in the gluteal region developing after a fall is apt to be a hydropic bursa—there are several bursae among the glutei.

A young and apparently healthy man with tendo-synovitis should always be suspected of gonorrhea.

Shallow, catching, irregular breathing is characteristic of diaphragmatic inflammation—either peritoneal or pleural.

In immobilizing the knee-joint the patient is more comfortable and better relaxation is secured if a very slight degree of flexion is maintained.

The presence of papulo-squamous tuberculides may be the only means of recognition of tuberculosis in infancy.

Unexplained septic temperature in an infant should lead to the search for a hidden osteomyelitic focus—especially in the upper end of the femur.—*American Journal of Surgery.*

If in abdominal tumor the left supraclavicular gland is swollen, it is malignant.

Abdominal tumors that can be indented and changed in position and form, are due to feces.—*Medical Fortnightly.*

Book Reviews.

ESSENTIALS OF LABORATORY DIAGNOSIS; by Francis Ashley Faught, M.D. Second Revised Edition. Cloth, pages 336, illustrated. F. A. Davis Company, Publishers, Philadelphia, Price \$2.00.

As indicated in the title, this book contains only the essentials of clinical laboratory methods. It admirably fulfills the authors avowed aim to give the student a helpful manual embodying merely the simple and reliable methods of practical utility; it shows the careful avoidance of superfluous details and complicated tests requiring costly paraphernalia and special training. The subject matter is presented systematically, clearly and concisely, is brought up to date by the introduction of such recent methods as have proven reliable.

Not only will the student, overpowered by the requirements of a full curriculum, appreciate the help of such a manual, but the busy general practitioner in his laboratory, will find it a quick and handy reference to clarify a dubious point in the technique of a stain or a test.

AMERICAN PRACTICE OF SURGERY: A Complete System of the Science and Art of Surgery, by representative surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., L.L.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Profusely illustrated, Volume VII. William Wood & Co., Publishers, New York.

This is the seventh volume of the comprehensive system and upholds the high standard of excellence of the previous volumes of the series. It is a continuation of Regional Surgery and consists of a collection of monographs by the recognized leaders in American Surgery. The section on Surgical Diseases and Wounds of the Pelvic and Gluteal Regions is contributed by Charles H. Peek, M.D., New York; under Surgical Diseases of the Extremities, Charles A. Porter, M.D., and William C. Quinby, M.D., Boston, merely consider such disorders of the extremities as have not been comprehensively discussed in the previous volumes; Surgical Diseases and Wounds of the Abdominal Wall is written by J. D. Griffith, M.D., Kansas City; Diagnosis of Tumors of the Abdomen, by Malcolm L. Harris, M.D., Chicago; Abdominal

Section by William M. Mastin, M.D., Mobile; Surgical Diseases and Wounds of the Stomach and Oesophagus, by Albert J. Ochsner, M.D., Chicago; Surgical Diseases of the Diaphragm and Subphrenic Abscess, by J. Charles Reeve, Jr. M.D., Dayton; Surgical Treatment of Septic Peritonitis, by the late Dr. Andrew J. McCosh, M.D., of New York; Tuberculous Peritonitis, by Nathan Jacobson, M.D., Syracuse; Abdominal Hernia, by E. Wyllis Andrews, M.D., Chicago; Surgical Diseases of the Veriform Appendix, by Andrew J. McCosh, M.D., New York; Surgical Diseases of the Intestines, by Charles W. Oviatt, M.D., Oshkosh; Surgical Diseases of the Anus and Rectum, by James P. Tuttle, M.D., New York, and Samuel T. Earle, M.D., Baltimore, is particularly well written, 188 pages are devoted to the subject with 92 illustrations. The section on Surgery of the Pericardium, Heart and Bloodvessels, written jointly by Dr. Robert G. LeConte, and Dr. Francis T. Stewart, M.D., Philadelphia, is worthy of special mention. It is the most satisfactory discussion upon cardiac and pericardial surgery that has come to the reviewer's attention.

That the volume is well edited needs no saying—the typography is good, the illustrations ample, suitable and clear. The work reflects credit upon all—editors, contributors, and publishers—who have labored in its making and richly merits the highest commendation as a work of reference.

THE PRACTICAL MEDICINE SERIES; Comprising Ten Volumes of the Year's Progress in Medical and Surgery. Under the General Editorial charge of Gustave P. Head, M.D., and Charles L. Mix, M.D., Volume II. General Surgery. Series 1910. The Year Book Publishers, Chicago. Cloth, pages 615, illustrated; price \$2.00. Price of the series of ten volumes, \$10.00

The series are issued at about monthly intervals and covers the entire field of medical and surgical progress. Each volume being complete for the year prior to its publication on the subject of which it treats. Although the publishers have intended the series for the general practitioner, the arrangement in volumes enables those interested in special subjects to buy only the parts devoted to their special line of work. The volume before us on General Surgery is edited by John B. Murphy, M.D., of Chicago, and represents a survey of the surgical work of the

year, as has been presented in the medical literature of the world. The editor has gleaned from the journals what is new and practical, and has reproduced such articles as are made authoritatively by extraordinary experience of the writers. The book contains 191 illustrations and 31 plates illustrative of a modified technique, new instruments and pathologic conditions. To one who desires to keep apace with the recent advancements in surgery this work will prove of great help. It gives the gist of more periodical than one ordinarily can afford to subscribe to. It is well indexed and furnishes references to the original articles.

We are familiar with no work of its kind that offers so much for so small an investment as the price of this particular volume.

THE TEST DIET IN INTESTINAL DISEASES: Its Application in Medical Practice and its Diagnostic and Therapeutic Value. By Prof. Dr. Adolf Schmidt, Halle, A. S. Authorized Translation from the Second Revised and Enlarged German Edition by Charles D. Aaron, M.D., F. A. Davis Company, Publishers, Philadelphia. Price \$1.50. Cloth, pages 126.

In this revised edition the author sums up the results of his personal investigations and observations and presents a practical method for examination of the functions of the intestines by the test diet. New material regarding intestinal disturbances due to a perversion of the function of the stomach, liver and pancreas has been added, as well as a number of illustrations that add materially to the new edition. Chapter 3 gives the Macroscopic, Microscopic, Chemie and Bacterologic Examination of the Feces; chapter 4, the Semeiotic Significance of Pathologic Findings in the Feces; chapter 7, Independent Disturbances of the Intestines,—including Organic and Functional Disorders. The work contains an extended Bibliography in the German, and an index that appears faultless.

CONGENITAL DISLOCATION OF THE HIP JOINT, by J. Jackson Clarke, M.B., London, F. R. C. S., senior surgeon to the Hampstead and North-west London Hospital, and surgeon to the Royal National Orthopaedic Hospital. Cloth, pages 92, illustrations, 55. Bailliere, Tindall and Cox, London. Paul B. Hoeber, New York, American Agents.

This monograph presents chiefly the author's personal experience with the manipulative method of treating congenital diseases of the hip joint.

He describes minutely the manipulative method of Lorenz, to whose principles he closely adheres, and cautions against the dangers and difficulties which are often encountered in the procedure. In the following two chapter post-operative treatment and special complications are discussed; the final chapter comprises a report of forty consecutive cases. The book is profusely illustrated by means of skiograms and daylight photographs.

INTERNATIONAL CLINICS, A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other Topics of Interest to Students and Practitioners, by Leading Men of the Medical Profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Vol. II. Twentieth Series, 1910. J. B. Lippincott Company, Publishers, Philadelphia and London. Cloth.

We can best give our readers an idea of this second volume of the series by a summary of its contents and mention of the contributors:—Treatment of Cardio-vascular Disease, by James Tyson, M.D.; The Prognosis of Therapeutics During the Past Twenty Years, by A. L. Benedict, M.D.; Treatment of Amoebic Dysentery, by Ch. Dopter, M.D.; Dropsy and its Treatment, by Herman B. Allyn, M.D.; The Diagnosis of Chronic Pancreatitis, by Charles Greene Caniston, M.D.; The Local Effects of Gall-Bladder Infections and Gall-Stones upon the Digestive Tract and Liver, by Frank Billings, M.D.; The Progress of Medicine During the Past Twenty Years, by James J. Walsh, M.D.; Lumbar Puncture; A Few cases of Specific Intoxication and Infections of the Urine, by S. R. Klein, M.D.; A Spontaneous Cure of Cancer, by Guthrie McConnell, M. D.; Some Remarks Concerning so-called Inoperable Tumors, by J. Garland Sherrill, M.D.; Epithelial Tumors of the Eyelids, by Leslie Buchanan, M.D.; A Report of Surgical Clinics held at the German Hospital of Philadelphia, by John B. Deaver, M.D.; Drainage of the Ventricles—Saline Irrigation—Injection of Antimeningitis Serum in Cerebro-Spinal Meningitis, etc., by Louis Fischer, M.D.; The

Contingent Treatment of Eclampsia, by J. W. Ballantyne, M.D.; The Treatment of Puerperal Eclampsia, by Robert Jardine, M.D.; Cyesognosis, by Wm. B. Doherty, M.D.; Seborrhoea, and its Consequences, by Arthur Whitfield, M.D.; School Furniture with Special Reference to Lateral Curvature of the Spine, by H. Schwatt, M.D.; Syringomyelia with Hypertrophy and Atrophy, by Max Schapp, M.D.; Book-Plates of Physicians, by Roland G. Curtin, M.D., and a Series of Clinical Lectures and Demonstrations Delivered at the University of Pennsylvania, Edited by John G. Clark, M.D. This volume contains 304 pages and many illustrations.

THE NEW PSYCHOLOGY; Its basic principles and practical formulas, by A. A. Lindsay, M.D. Eugene and Arthur Lindsay, Publishers, Portland, Oregon. Cloth.

This book of ninety-nine pages, contains the following chapters:—The Basic Principles; Psych (Suggestive) Therapeutics; How to Treat Disease and Habits; Suggestion in Moral Reform; Intelligence of the Cells; Cell Communication and Co-operation—Cell Insanity; Telepathy; How to Become a Psychic; Some Psychic Phenomena; Chemistry of Body Modified by Emotions; Absent Treatment; Truth about Evil Thought Transference; Scientific Inspiration; The Chemistry and Psychology of Love; The Mother and Her Child; Faith, Hope and Trust, Psychologically Speaking.

NEW EDITION OF GRAY'S ANATOMY.

Lea & Febiger, Publishers, Philadelphia, announce that the new edition of Gray's Anatomy will be ready for distribution this month.

Eighteen editions have been demanded in the course of its

half century, and they have enlisted many of the ablest anatomists of this period. The principles on which GRAY built his book have been followed, and it is not too much to say that during two generations it has guided the teaching of its subject in America as well as England. An army of students has conned its pages, and has carried it away into practice, for it is equally valuable to the physician and surgeon for reference on underlying points. In fact, the editor has made the application of anatomy, in medicine as well as surgery, a special feature.

Of all the editions, this new one represents the most thorough revision. Every line has been scanned for possible improvement. Anything in the nature of a possible obscurity has been clarified, passages have been rewritten, and new developments have been incorporated. Rearrangement has eliminated many duplications, and this, together with condensation in style, has rendered it possible to present more information in one hundred pages less space, to the reader's obvious advantage. Professor Spitzka, the editor, is one of the foremost anatomists in the world, and he joins to this the apt qualification of being himself an artist as well, so that the drawings from his own hand present his knowledge directly to the mind of the reader. Another of GRAY'S fundamental improvements, in which his book has always been unique, was the engraving of the names of the parts directly on them, so that the student learned at once not only their nomenclature, but also their position, extent and relations, the four cardinal points. The advantage of this graphic method over the elsewhere customary lines and reference letters is obvious. GRAY'S book was also the first to contain illustrations in colors. In this new edition, besides all the improvements in the text, the splendid series of characteristic illustrations has been equally revised, many cuts being replaced and more added, and the use of colors is more lavish than ever. No student in any profession, or in any branch of medicine, has offered to him any instrument of instruction comparable to GRAY'S ANATOMY. It suffices to say that the new edition will excel any of its predecessors.

ACKNOWLEDGMENTS.

HOOKWORM DISEASE—Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment.—By George Dock, A.M., M.D., Professor of the Theory and Practice of Medicine, Medical Department Tulane University of Louisiana, New Orleans, and Charles C. Bass, M.D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, \$2.50. C. V. Mosby Company, St. Louis, Publishers.

THE PRACTICAL MEDICINE SERIES, under the General Editorial charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D., Volume IV. Gynecology, Edited by Emilus C. Dudley, A.M., M.D., and C. Von Bachelli, M.S., M.D., Series, 1910. The Year Book Publishers, Chicago. Cloth. Pages 230. Illustrated. Price \$1.25.

TRANSACTION of the College of Physicians of Philadelphia. Third Series. Volume the Thirty-first. Cloth, pages, 663.

TRANSACTION of the Seventh Annual Conference of State and Territorial Health Officers with the U. S. Public Health and Marine Hospital Service. Washington, D. C. June 2, 1909. Cloth. Pages, 86. Washington Government Printing Office, 1910.

MARITIME QUARANTINE—By Leland E. Cofer, Assistant Surgeon, General. Prepared by Direction of the Surgeon-General. Public Health Bulletin, No. 34. Pages, 64, illustrated. Washington Government Printing Office, 1910.

PENNSYLVANIA HEALTH BULLETIN. A Retrospective Glance. 1. Susceptibility to Tuberculosis. 2. Purity of Milk. 3. Bovine Tuberculosis. Samuel G. Dixon, M.D., LL.D., Commissioner.

STUDIES UPON LEPROSY. A Statistical study of an Endemic Focus of Leprosy, by Walter R. Brinkenhoff, S.B., M.D., and

A. C. Reinecke. A Palliative Treatment for Leprous Rhinitis, by James T. Wayson, M.D., and A. C. Reinecke. Washington Government Printing Office, 1910. Pages 25.

CHRONIC CATARRHAL INFLAMMATION OF THE MIDDLE EAR, by Lefferts A. M. McClelland, M.D. Reprint, pp. 15.

THE STRAW ITCH. A Disease New to American Physicians. By Joseph Goldberger, Past Assistant Surgeon U. S. Public Health. Marine Hospital Service. Pages, 8; illustrated. Washington Government Printing Office, 1910.

BULLETIN OF THE ILLINOIS STATE BOARD OF HEALTH. Pages 59; illustrated.

TUBERCULOSIS, ITS NATURE AND PREVENTION; by F. C. Smith, Past Assistant Surgeon. Prefaced by Direction of the Surgeon-General; pp. 12; illustrated. Washington Government Printing Office 1910.

GENERAL OBSERVATIONS ON THE BIONOMICS OF THE RODENT AND HUMAN FLEAS; by Maurice B. Mitzmain, M.D. Prepared by Direction of the Surgeon-General; pp. 34. Washington Government Printing Office, 1910.

THE RELATION OF CLIMATE TO THE TREATMENT OF PULMONARY TUBERCULOSIS; by F. C. Smith. Past Assistant Surgeon. Prepared by Direction of the Surgeon-General. Washington Government Printing Office, 1910.

STUDIES UPON ANAPHYLAXIS WITH SPECIAL REFERENCE TO THE ANTIBODIES CONCERNED. By John F. Anderson, and W. H. Frost; pp. 56. Washington Government Printing Office 1910.

AN EXPERIMENTAL STUDY OF THE SUPPOSED INCOMPATIBILITY OF CALOMEL WITH THE GASTRIC JUICE, ALKALINE CHLORIDES, AND THE VEGETABLE ACIDS, with Experimental Investigations Concerning the Action of Calomel upon the Gastric and Pancreatic Juices. Is Calomel Primarily Decomposed by the Pancreatic and Intestinal Juices? Illustrated by two Original Drawings by Theodore W. Schaefer, M.D.

THE BLEACHING OF FLOUR AND THE EFFECT OF NITRITES ON CERTAIN MEDICINAL SUBSTANCES; by Worth Hale, pp. 44. Washington Government Printing Office, 1910.

PATHOLOGIC VARIATIONS AND COMPLICATIONS OF APPENDICITIS; By Charles H. Goodrich, M.D., Reprint pp. 34.

HOOKEWORM DISEASE, Its Nature, Treatment and Prevention; by Ch. Wardell Stiles, Ph.D. Prepared by Direction of the Surgeon-General pp. 40; illustrated. Washington Government Printing Office 1910.

WHAT THE MAYOR AND CITY COUNCIL CAN DO IN THE PREVENTION OF TYPHOID FEVER; by L. L. Lumsden. Washington Government Printing Office 1910.

OBSERVATION ON BRAIN SURGERY AND REPORT OF SOME INTERESTING CASES. By William Edward Fitch, M.D. Reprint, pp. 10.

THE PREVENTION OF BLINDNESS; by F. Park Lewis, M.D. Reprint pp. 23.

News Items.

The Kentucky State Medical Association will hold its fifty-fifth annual session at the Young Men's Christian Association Building, Lexington, Tuesday, Wednesday and Thursday, September 27, 28 and 29, 1910.

State Board of Health.—At the annual meeting of the State Board of Health, held August 11, in the Atherton Building, several employees of the board were elected, 132 applications for licenses to practice in Kentucky were approved. The employees elected follow:

Paul Hansen, of Columbus, O., State Sanitary Engineer. Mr Hansen is a native of Virginia, a graduate of the Massachusetts Institute of Technology, and has had experience in sanitary engineering in Massachusetts and Ohio. Dr. W. L. Heizer, of New Haven, Ky., was chosen Superintendent of Vital Statistics, and Dr. L. H. South, of Bowling Green, elected State Bacteriologist.

Prof. Fred D. Muchler, of Bowling Green, was the choice of the board for Assistant State Chemist and Bacteriologist.

The members of the board present were Dr. W. A. Quinn, of Henderson; Dr. K. W. Coffman, of Owensboro; Dr. James C. Mitchell, of Louisville; Dr. C. Z. Aud, of Cecilia; Dr. J. N. McCormack, of Bowling Green, and Dr. A. T. McCormack, of Bowling Green.

Dr. and Mrs. George Leachman, have gone to Bay View for the remainder of the summer.

Dr. J. M. Ray has gone East to spend several weeks and will then go to Wequetonsing.

Dr. Thomas Hunt Stucky has returned after spending several days in Chicago.

Dr. Thomas Butler and Mrs. Butler are at Atlantic City for a short stay before going to their bungalow in Canada.

Dr. M. Caspar has returned home after a two weeks' visit at Grayson Springs.

Dr. W. E. Dale has returned from a visit to his brother at Barlow.

Dr. Louis McMurtry and daughter have gone to Chicago.

Dr. L. R. Veech and wife are spending a couple of weeks at Crab Orchard Springs.

Dr. Roger S. Allan and mother left for Old Point Comfort for a week's stay.

Dr. S. G. Dabney left August 11, to spend three weeks in the East.

Dr. and Mrs. Frank Collyer have returned from a month's visit in the South.

Dr. Bertram Bernheim and Mrs. Bernheim and children, of Baltimore, are the guests of Mr. and Mrs. E. Palmer Bernheim, at their home in Anchorage.

Dr. J. Rowan Morrison has gone to Fort Springs, Va.

Dr. and Mrs. W. D. Berry have left for the North-west.

Dr. H. H. Grant and family made a motoring tour to Central Kentucky and were the guests of Mrs. W. R. Cook.

Dr. Tom McDonald and Mrs. McDonald, of Coffeyville, Kan., are visiting the latter's parents, Mr. and Mrs. G. W. Stone, in Leitchfield.

Dr. Homer Smythe and Mrs. Smythe, of Louisville, visited Dr. J. L. McClung and family in Mt. Sterling.

Dr. L. S. Settle and Mrs. Settle have returned to Mt. Washington from a visit in Lexington.

Dr. R. M. Parks left Wednesday for a two weeks' trip through the West. He will visit San Francisco and the mountains of Nevada.

Dr. and Mrs. Columbus Goodwin, of Kendelville, have been visiting relatives in Charlestown, Ind.

Dr. Harvey P. Barrett, of Anchorage, has returned from Ann Arbor, Mich.

Dr. John Pedinger is in charge of Beechurst Sanitarium for two weeks during the absence of Dr. Malcolm Vealman

Dr. Thomas Shaver, of Anchorage, went to Lexington to visit his daughter.

Dr. Herbert Caldwell and Mrs. Caldwell, of Pewee Valley, have returned from the East.

Dr. J. M. Salmon and Mrs. Salmon have returned to Ashland from a several weeks' sojourn in Colorado.

Dr. Edward L. Warren and Mrs. Warren have gone to Niagara Falls, they will also spend some time in Atlantic City and New York.

Dr. Adolph O. Pfingst and family, of Louisville, are taking the St. Lawrence River trip.

Dr. Harthill, of Pewee Valley, has left for California, Seattle and Washington.

Dr. J. Hunter Peak and family, of Louisville, have returned from a visit to Niagara Falls, Buffalo and Toronto.

Dr. V. E. Simpson, of Louisville, has returned from a ten days visit to his parents in Whitfield.

Dr. S. Scott Prather and Mrs. Prather, of Louisville, are spending several weeks in Anchorage.

Dr. Homer L. Nickell and Mrs. Nickell, of Louisville, are visiting Dr. G. C. Nickell and Mrs. Nickell in Morehead.

Dr. James S. Chenoweth, Mrs. Chenoweth and Miss Mary Chenoweth, of Louisville, have gone to Warm Springs, Va., to spend a month.

Dr. C. E. Brush and wife have returned to Oklahoma from their bridal tour to New York and the Bermuda Islands.

Dr. W. B. Oldham and Mrs. Oldham, of New Castle, have returned from their bridal trip in the Far West.

Dr. E. Williams and Mrs. Williams, of Taylorsville, have returned from an extensive trip through Kansas, Oklahoma and Colorado.

Dr. Howerton Hopper and Mrs. Hopper, of Pleasant Grove, visited relatives in Perryville.

Dr. George S. Coon and Mrs. Coon, of Louisville, have returned after a trip to the Pacific Coast, and a visit to Yellowstone Park.

Dr. A. D. Willmoth and Mrs. Willmoth, of Louisville, visited Chicago.

Dr. John Edwin Hays and Mrs. Hays, of Louisville, have returned from a three weeks' stay in Provincetown, Mass.

Dr. John T. Ewing, of Louisville, has gone to Atlantic City.

Dr. Frank Fleishaker has returned after spending two weeks at Atlantic City with his family.

Dr. Arch Dixon, of Henderson, was in Louisville for a few days.

Dr. DeWitt Wolfe, of Louisville, is spending the month in White Mountains.

Dr. Cooper Wright, of Bowling Green, who has been quite ill is again able to be out.

Dr. F. M. McHugh, for the past seven years physical director of the Louisville Young Men's Hebrew Association, has resigned

his position and gone to Desert, Utah, where he will engage in the practice of medicine. His engagement to Miss Olivia Henderson, of Louisville, has been announced.

Dr. Walter Levy, assistant physician at the Indiana Reformatory, has tendered his resignation. He will engage in the practice of medicine in New Albany, giving special attention to the ear and the eye.

Dr. Henry E. Tuley and Mrs. Tuley, who have been traveling through Switzerland, are now on the Rhine trip.

Dr. F. O. Carter and Mrs. Carter left yesterday for a ten days' visit in Detroit.

Dr. Hazel Graham Petrie and Mrs. Petrie, of Redash, who are en route home from a visit to Hopkinsville, are the guests of Dr. C. B. Petrie, of Louisville.

Dr. and Mrs. Herman Humphrey have gone to Charlevoix, Mich., for a short stay.

Dr. M. L. Ravitch left for Michigan to join his wife and daughter.

Dr. John J. Moren and Mrs. Moren have been spending the month of August in their summer cottage in Massachusetts.

Dr. W. B. Smock, County Health Officer, who has been confined to his home by illness, is able to again resume his duties.

Dr. and Mrs. T. A. Hays left for Waukesha. They will remain there until September 1.

Dr. Ben Carlos Frazier has returned from an automobile trip through the Bluegrass.

Dr. Currin Pope, who has been in New York for the past ten days, is now in Atlantic City.

Dr. P. Edgar West and Mrs. West, of Hopkinsville, have gone to California to spend several weeks.

Dr. Harry C. Woodard, of Louisville, who has been abroad this summer attending the hospitals of London and Berlin, has returned home.

Dr. W. H. Coleman and family, of Louisville, left for Parkersburg, W. Va., to visit relatives.

Dr. Carl Weidner and Mrs. Weidner and children have returned home from their vacation in Northern Tennessee.

Dr. William Dudley, of Lexington, has returned from a two months' stay in Europe.

Dr. W. T. Willis and Mrs. Willis, of Mt. Sterling, have returned from a visit to relatives in Jessamine County.

DEATHS.

Dr. Chesterfield W. Harper, in Russellville, Ky., August 5th, from heart disease—aged 74 years.

Dr. William Foley, in Lexington, Ky., August 6th, from paralysis; aged 36 years.

Dr. Edward L. Pearce, at his home in Louisville, August 23, aged 46 years.

Florence Nightingale, at her home in London, August 13th, age 90 years.

CALENDAR OF LOUISVILLE MEDICAL SOCIETIES.

(FOR SEPTEMBER.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton, September 5, 12, 19 and 26.

DR. E. S. ALLEN-----	President
DR. S. D. WETHERBY-----	} Vice Presidents
DR. M. F. COOMES-----	
DR. CURRAN POPE-----	Treasurer
DR. DUNNING S. WILSON-----	Secretary

LOUISVILLE ACADEMY OF MEDICINE; meets at the Tavern Club September 8.

DR. DUNNING S. WILSON-----	President
DR. E. O. WITHERSPOON-----	Vice President
DR. CHARLES FARMER-----	Treasurer
DR. DAVID C. MORTON-----	Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House September 6 and 20

DR. JOSEPH W. IRWIN-----	President
DR. ARGUS D. WILLMOTH-----	Treasurer
DR. H. J. FARBACH-----	Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House, September 1.

DR. J. D. HAMILTON-----	President
DR. R. A. BATE-----	Vice President
DR. RICHARD T. YOE-----	Treasurer
DR. W. O. GREEN-----	Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club, September 15.

DR. L. P. SPEARS-----	President
DR. CHAS. W. HIBBITT-----	Treasurer
DR. EDWIN T. BRUCE-----	Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, September 2 and 16.

DR. J. GARLAND SHERRILL-----	President
DR. J. ROWAN MORRISON-----	Vice President
DR. FRANK C. SIMPSON-----	Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn, September 6.

DR. I. A. ARNOLD-----	President
DR. H. L. READ-----	Vice President
DR. JOHN K. FREEMAN-----	Secretary and Treasurer

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Danville, Ky., November 17, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 8, 1910.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Paris, Ky., October, 1910. (Exact date not determined.)

KENTUCKY STATE MEDICAL ASSOCIATION; meets at Lexington, Ky., September 27-29, 1910.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., 1911.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D., Editor in Chief.

Original Articles and Clinical Case Reports are solicited.

Reprints may be obtained at cost, if request accompanies manuscript.

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

VOL. XLIV.

LOUISVILLE, KY., OCT., 1910.

No. 10.

Editorials

THE CRY OF CASSANDRA.

Elsewhere in this issue appears the report of the Hospital Commission. It sets forth the requirements of the adequate and modern hospital that is intended to take the place of the present decrepit relic of Louisville's earlier days.

Although the Commissioners' recommendations have the full endorsement of every doctor, the profession has not enlisted actively and earnestly in the campaign. The medical fraternity is asleep at the switch and not alive to its glorious opportunity.

It is now "up to the doctors" to do something more, when the deficiencies of the old hospital are pointed out, than merely say "'tis true, 'tis pity, and pity 'tis, 'tis true."

Their civic duty in a matter of public health is greater than that of the layman and should impel them to action, for it takes action to get the assent of two-thirds of the citizens voting on the proposition on the first Tuesday in November. Many short-sighted taxpayers exist who are constitutionally opposed to a million-dollar increase of the city's indebtedness for any purpose, however worthy.

But as physicians are in touch with the convincing voters in every home and conversant with the past and prevailing deplorable conditions and recognized universally as unselfishly public-spirited, a little lingual activity on their part will insure the erection of the Hospital.

We again sound a note of warning,—lest what may now be a mere question of municipal pride becomes one of municipal crime, Louisville *urges—and has the right to expect*—every doctor to do his duty.

RESULTS OF FOURTH-OF-JULY PRECAUTIONS.

The Journal of the A. M. A. in September published the casualties resulting from the last celebration of the Fourth of July. The number of deaths from the use of fireworks is decidedly lower than it was heretofore. There were only 72 cases of lockjaw this year, while last year there were 150. This is the lowest number of tetanus cases reported since The Journal began the compilation of these statistics in 1903. There were 131 deaths this year as compared with 215 last year, and 2,923 injuries this year as compared with 5,307 last year.

This remarkable decrease must be accredited to the municipal precautions taken. The report places the responsibility of the Fourth-of-July casualties where it belongs—upon city governments, since the methods of disastrous celebration are subject to their control. Until

precautionary measures are enacted governing the sale and discharge of explosives, City Fathers are open to the charge of criminal negligence. Our municipal guardians have evidently awakened to the realization of their responsibility; they now have before them the following proposed ordinance:

Section 1. No person shall at any time discharge or set off anywhere within the city, or sell or offer for sale, any blank pistols, blank cartridges, cane ammunition or canes for exploding same, cannon crackers or any firecrackers exceeding two inches in length by one-fourth inch in diameter, or firecrackers of any size containing an explosive stronger than ordinary powder, Turkish cracker, torpedoes except the ordinary commercial kind, or any other articles loaded with the two chemicals chlorate of potash or sulphur.

Sec. 2. Any person, firm or corporation violating the same shall, upon conviction thereof, be fined in any sum not exceeding \$100 for each offense, or imprisonment not exceeding thirty days, or both, at the discretion of the court.

Sec. 3. This ordinance shall take effect January 1, 1911.

Sec. 4. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Its passage will provide a sane Independence Day for Louisville. It is to be hoped that other cities will hasten to follow the good example of Washington, Trenton, Chicago and Baltimore, and by like prohibitory ordinances avert the dirge of the Inglorious Fourth.

Original Communications.

INTESTINAL OBSTRUCTION.

By G. A. HENDON, M.D.,

LOUISVILLE, KY.

The scope of this subject covers such a wide area that it is only practicable at this time to deal with a certain portion. Intestinal obstruction may arise from various causes and be the result of different influences. For this reason it is convenient to divide the subject into mechanical and dynamic obstruction. The mechanical division will be the one treated of in this paper.

In all kinds of intestinal obstruction the interruption of two currents are to be considered, the fecal and the circulatory. Cases occur in which the fecal current alone is interrupted; also cases in which the circulation alone is cut off, and cases in which both are either partially or completely interrupted. This proposition applies more directly to the mechanical division.

The following are the most frequent means of obstruction: obturation; strangulation; intussusception; volvulus; torsion; stenosis and kinks. The different types of hernia are not considered.

Obturation is produced by an enterolith, a gall stone or a foreign body. I have never known an authentic case of fecal impaction causing obstruction. Obturation occurs most frequently in the aged and is celebrated for its fatality, the rate being about 50 per cent., either with or without operation. I think the reason for this is the lateness of the operations, the operation being in nearly every instance a last resort. The lodgment has been found in the lower part of the ileum in 50 per cent. of cases. The upper part of the jejunum is the location next in frequency.

Gall stones are generally supposed to form the nucleus of enteroliths.

Strangulation conveys the idea of sudden and complete arrest of both currents by a band surrounding the gut. Bands capable of so constricting the intestine are

either the persistent remains of the omphalo-mesenteric duct or the product of peritoneal irritation which may be post-operative or the result of peritonitis from specific infectious origin. A degenerated vermiform appendix may furnish a band capable of constriction, as has been observed. The type at present described is more frequently seen during the active period of life and is more frequent in the male.

Intussusception occurs most frequently in early childhood and infancy, and may be caused by the pull exerted by an inverted diverticulum or an intestinal polyp. The peristaltic wave directed against a large bolus of food may have the effect of telescoping the bowel. The eating of bananas by young children has been followed by intussusception with notable frequency. The lesion generally occurs near the ileocecal valve. In fact about 80 per cent. of intestinal obstruction may be reached through a right rectus incision. Intussusception is characterized more frequently than other forms of obstruction by a well defined sausage-shaped tumor, both visible and palpable upon the surface.

Volvulus is most apt to occur in connection with the sigmoid. It follows trauma in some instances, as in a case reported by the writer: a man was assaulted by an infuriated but dehorned bull, which knocked him down and rolled him over and over on the ground a number of times before assistance could be had. Symptoms of obstruction supervened and laparotomy was performed, disclosing a volvulus of the small intestine, which was relieved. The man made a good recovery.

The presence of acquired diverticulæ as recently found with the sigmoid predispose to volvulus.

Torsion of the mesentery is one form of volvulus which acts by cutting off circulation and producing death by gangrene of a segment of bowel. The dead segment is a complete barrier to the fecal current and obstruction results as surely as if the circumference of the gut were encircled by a ligature. Volvulus may involve several coils of the intestine which, when entangled, will prove to be quite distant from each other. Torsion of the intes-

tine may also exist, usually as a result of traction of a supernumerary pancreas or cyst of the diverticulum of Meckel.

Stenosis refers to a gradual occlusion of the bowel as from the cicatrix of the healing ulcer or pressure of a tumor or growth of carcinoma or pressure exerted by the enlargement of some other intra-abdominal organ.

Kinks or acute flexures are produced by an agglutinating type of peritonitis, such as tubercular with abscess formation. I think obstruction by acute flexure the rarest form of interruption of the fecal or haemic current, unless it relates to a loop of intestine hanging across a band that is fixed at both ends.

Post-operative dilatation of the stomach might, with propriety, be classified as a form of obstruction, which in effect it is. Its morbid anatomy is not yet understood.

Diagnosis: The life of the patient hangs almost solely upon diagnosis. It is folly when studying the symptoms of this disease to dwell upon such phenomena as fecal vomiting, flickering pulse, dilated pupils, distended abdomen, cold extremities, cold sweat, delirium, exhaustion, etc. A group like this would be better suited for a painter to transfer to canvas than for a physician and surgeon to dissipate. If any portrait artist wanted a model of anguish and despair; if he should wish to depict human suffering in its wildest mood, I would lead him to the bedside of a victim of intestinal obstruction about seventy-two hours after the onset. What a patient needs then is spiritual consolation, the ministration of a clergyman, not a physician. The diagnosis, then, is so plain it could be made by the father of a mule if he could talk. The physician who waits for fecal vomiting to diagnose intestinal obstruction is like the boy who never knew he was hit until his nose commenced to bleed. Early diagnosis is the watchword of success in this as in many other diseases.

The first warning the patient has of trouble is pain, generally situated first in the region of the stomach. The pain is probably caused by rapid distension of the bowel with gas and liquid feces above the point of obstruction. Next to and closely associated with pain is reverse peri-

stalsis. This reversal of current begins at the pylorus and the patient vomits gastric contents and gastric mucus. The reverse wave now begins a little lower down and the duodenal contents are borne into the stomach and vomited. Hence the biliary material and gastric mucus that follow, emptying the stomach. About this time the patient recognizes the futility of home remedies and sends for his doctor, who may make a diagnosis of acute indigestion and cramp colic. A purgative is ordered, which is promptly rejected by the patient's stomach. At the next visit the patient is threatened with gall-stones or appendicitis. Hot applications are ordered to the abdomen and more active cathartics given internally. These are promptly expelled and croton oil is brought into play. From that time on the picture is too familiar to require description. It can, I think, be accepted as a settled fact when a patient has severe abdominal pain, vomiting and constipation, a grave lesion is present. In the event of decomposing food or irritative substance, a diarrhea is inevitable. In grave intra-abdominal disease the most irrational therapeutics is administration of cathartics. Giving a purgative to a case of obstruction is like mauling a wedge into a log. One of three things must happen. The log will split in twain, the wedge be gripped like a vise, or the mauler will become exhausted. To apply the simile, the bowel will rupture, the obstruction will become tighter, or the muscular tone of the gut will be destroyed. Usually when the physician is called the patient has already taken salts or castor oil, and they have either failed to act or been rejected. In the presence of such a history I would advise a hypodermic of morphine, and if at the expiration of its effect the pain revived, I would urge a laparotomy. If done at this stage, but little pathology other than simple mechanics will be encountered in the cavity. This can be relieved in a moment and no damage suffered by the patient.

No disease, that we know of, is as certainly relieved, if operated before devastation has been accomplished, as intestinal obstruction of a mechanical variety, yet the mortality of all cases reported is appalling.

EXAMINATION OF GASTRIC CONTENTS.

BY EMMET F. HORINE, M.D.,
LOUISVILLE, KY.

It is the general conception that much experience and complicated apparatus are essential to examinations of the stomach contents. To prove that such examinations are relatively simple and that only a limited amount of apparatus is necessary will be the purpose of this paper.

Usually the general practitioner sends all specimens of stomach contents to some laboratory for examination. But he does not realize that while he is obtaining a suitable container and packing the specimen for shipment, he himself could have made the more important tests in the examination. Then, so often, unless the patient is wealthy, the physician does not desire to subject his patient to the expense of a gastric analysis.

A physician, who has mastered the technique of examinations of the gastric contents, can personally follow the disease in question to an ultimate analysis. It is too frequently the case that an operable gastric carcinoma is not diagnosed in an operable stage through neglect of the attending physician in making an analysis. Again, we can certainly prescribe for our patients with gastric symptoms more rationally if we know whether we have present euchlorhydria, hyperchlorhydria, hypochlorhydria or anachlorhydria. Really, how can a physician intelligently prescribe for a dyspeptic patient unless an examination of the stomach contents is made?

In some quarters the laboratory report is accepted as final. Too often, unfortunately, an attempt at diagnosis is made from the laboratory report alone. But the physician who is able to make his own gastric analyses is not so easily led astray. He learns to correlate clinical signs and symptoms with the laboratory findings. The case in question has been carefully studied prior to the gastric analysis, and consequently the laboratory results are carefully compared with the symptomatology.

Another point which should be emphasized here is the fact that too much reliance should not be placed upon

a single examination of the stomach contents. At least two, and at times repeated examinations are necessary to arrive at a correct solution of the problem.

For a description of the various test meals and methods for use of the stomach tube, the reader is referred to any one of the numerous treatises on clinical diagnosis.

After the test meal is removed, the macroscopic appearance alone furnishes us with considerable information. If much mucus is present mixed with the meal, a gastritis is suspected. The presence of blood suggests gastric ulcer or possibly, gastric carcinoma. In motor insufficiency or pyloric stenosis, remnants of food from former meals are observed. At times in motor insufficiency, and almost always in pyloric stenosis, the quantity of fluid obtained is enormous (three or four quarts).

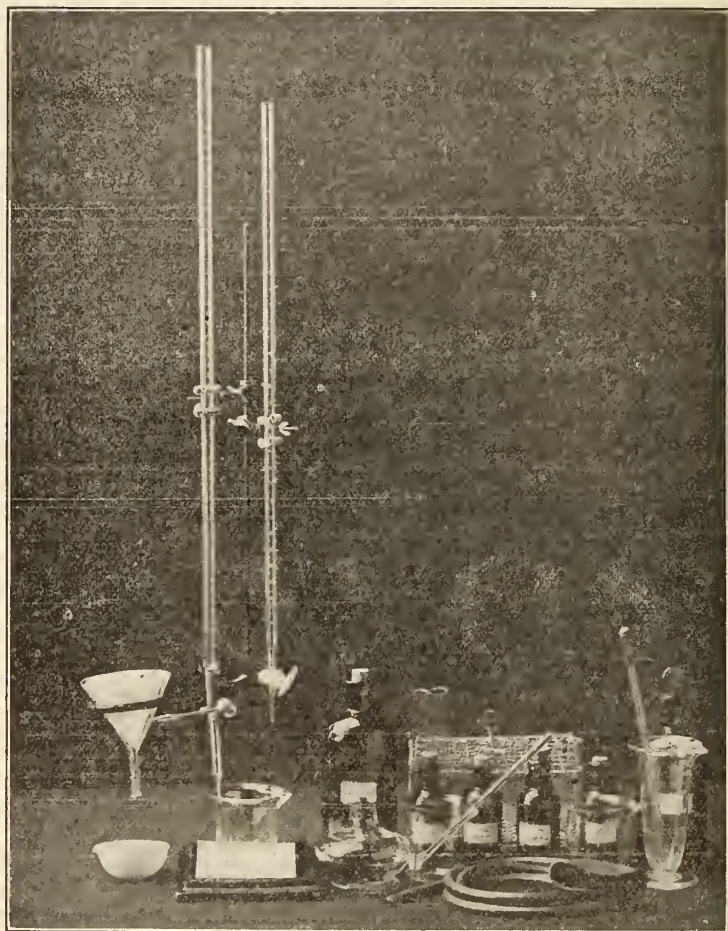
For ordinary clinical purposes, the chemical examination may be materially shortened in most cases. For instance, if free hydrochloric acid is found, it is usually assumed that pepsin is present. Again, if free hydrochloric acid is present in normal amounts and if there is no sign of stagnation of the stomach contents, it is practically unnecessary to test for lactic acid.

For the determination of the reaction, litmus paper may be used, although the Congo-red test is far superior. A stock solution of 1 per cent. Congo red in dilute alcohol is prepared. About four drops of this are added to a test tube of water producing a red solution. Upon the addition of a few drops of gastric juice, a blue color is produced in the presence of acid.

The presence of free hydrochloric acid is readily determined through the use of a .5 per cent. alcoholic solution of dimethyl-amido-azo-benzol. If free hydrochloric acid is present, a cherry red color develops upon the addition of a drop of the above solution to a few drops of filtered gastric juice. The resorcin test may be applied when it is desirable to confirm the amido-benzol test.

Next one should proceed to the quantitative estimation of the acidity. For this purpose, Toepfer's method is in general use. The apparatus necessary is as follows: One burette, with stand and holder; three beakers and

one graduated pipette. The solutions are: (a) decinormal solution of sodium hydroxide; (b) 1 per cent. alcoholic solution of phenolphthalein; (c) a per cent. aqueous solution of sodium alizarin sulphonate; and (d) .5 per cent. alcoholic solution of dimethyl-amido-azo-benzol.



Showing necessary Apparatus for Gastric Analysis.

In the greater number of cases it is only necessary to determine the total acidity and the amount of free hydrochloric acid by Toepfer's method. When either of the above is abnormal, it may become necessary to determine: (a) combined hydrochloric acid; (b) total hydrochloric acid; and (c) acid salts.

The length of this paper will not permit of a detailed description of Toepfer's method. It is sufficient to state that the method is simple, but of course practice is necessary before one is able to recognize the various end reactions. With a little patience, any one can master the technique.

A test for lactic acid is to be applied only when the amount of hydrochloric acid is abnormal, or when there are signs of stagnation of the stomach contents.

The cut shows the simple apparatus necessary for performing the tests mentioned. Similar apparatus may be purchased from any surgical instrument house. The total cost of the apparatus shown in the cut is about seven dollars (exclusive of one burette).

The writer appreciates the fact that cases may arise in which greater care must be exercised in making the various tests. Also it is essential in certain cases to perform many other tests before it is possible to make a diagnosis. But by the use of the tests mentioned above, the physician will certainly obtain valuable information. Instead of treating his patients blindly, he is able to apply rational treatment. It must be remembered that treatment, based upon subjective gastric symptoms alone, *is not only irrational, but almost always very unsatisfactory.*

Conclusions:—

1. Examination of stomach contents is absolutely necessary for the proper treatment of dyspeptic cases.
2. Such examinations are relatively simple.
3. The time required for a routine examination is very short from the fact that in certain cases many tests may be omitted.
4. The subjective symptoms and laboratory findings should be conjointly considered.
5. The cost of the necessary apparatus is very low.

1036 Bardstown Road.

Clinical Department.

SOME SURGICAL CONDITIONS OF THE KNEE JOINT.

(Presentation of cases)

By S. C. McCox, M. D.

LOUISVILLE, KY.

In presenting these cases it is with a full realization and appreciation of the experience of the members of this Society. There is nothing new to offer in the treatment instituted in the handling of these cases, the treatment as used being familiar to every member. The cases in my report I have arranged numerically 1-2-3, and will present them in this order with a brief history and the treatment of each.

CASE NO. 1.

SUPPURATIVE ARTHRITIS.

The first case, is that of suppurative arthritis and came under my observation, December 2, 1906. At that time the patient was eighteen years of age, and weighed one hundred and twenty pounds. Father died at the age of fifty-eight years, of cirrhosis of the liver. Mother living and in good health. Has two sisters living, ages twenty-four and eight years respectively. One brother living aged eighteen years, in good health. Sister twenty-four years of age, has had some enlarged cervical glands and suppurative ear for one year, at the age of seventeen. Sister eight years old, has been an invalid since three years of age. One sister died at the age of two years, of cerebro-spinal meningitis. One brother died at the age of three weeks of convulsions.

I am sure the members are all familiar with the pathology and treatment of suppurative arthritis, and it is not my purpose in presenting this case to claim anything new or original in the treatment of this disease.

A point which I thought might be of interest, and the one prompting me to present this case, and also, the one along which a great deal of interest has been shown of late, is the excellent degree of health that may be obtained in this class of patients in our own vicinity, by the

Reported before the Louisville Society of Medicine.

application of the established treatment and management of these cases which we in many instances can adopt.

The patient, when I first saw her, presented the appearance of a typical case of suppurative arthritis of the knee; it was then of two months duration with the usual group of symptoms attending these cases.

On examination I found the knee discharging from two points, one on the inner surface and the other on the outer surface, the scars now indicate the openings at the time.

I was able to pass a probe through the joint under the patella, passing out on the opposite side, also to irrigate through the joint.

I was able with probe to outline a cavity one inch wide, extending upward on the outer surface of the femur, a distance of four inches, the long scar now indicating its location.

The patient's general condition presented that of a system loaded with pus (as you might expect from the surface involved in suppuration), having night sweats, elevated temperature, frequent chills, suppressed menses for several months, etc.

The patient gave a history at the time of having an open knee three years previous to this time. The knee discharging for three months at that time. Finally the discharge stopped, and the wound healed, leaving the knee stiff for several months. But finally regaining its function almost completely and remaining in this almost normal condition for a period of three years, in which there were no symptoms of any suppuration and aside from a slight impairment of function the disease caused her no inconvenience.

When first called I was advised by the family, that amputation had been insisted upon by the surgeon in attendance, and they had absolutely refused. I was of the same opinion and advised the same, but this was positively refused by the family, insisting that every possible effort be exerted to save the leg. The gradual response to the expectant plan of treatment encouraged me to continue until the patient was entirely relieved.

The patient was at once removed to the country, put on constitutional treatment, consisting mainly of tincture of iron, or changing sometimes to some other form of iron, codliver oil, olive oil, etc. The patient was allowed a liberal proteid diet mainly of meat, eggs and milk, always pushing one to intolerance then changing to another.

This intolerance was at times hard to reach, as a result of the move to the country. Consequently the patient's appearance to-night is much changed from one of marked anemia.

She now weighs 180 pounds and apparently enjoys the best of health. Also complete restoration of function of the knee is obtained.

CASE NO. 2.

FRACTURED PATELLA.

The second case is that of Mr....., aged thirty-six.

This case has been one of great interest and impresses one with the results of immediate radical operation, when compared with those obtained by the employment of the older and much practiced methods of the past.

This case of fracture of the patella, in which the results of the treatment instituted, to my mind, makes it worthy of presentation, and also demonstrates the great improvement which has been made in the management of this injury in recent years in competent hands. The treatment, as formerly applied, was uncertain as to functional results, almost certain to fail of bony union, and very likely to entail a slow, tedious convalescence. Many plans have been employed in the treatment of this fracture; to bring the fragments together by mechanical means, such as bandages, adhesive plaster, splints, etc. Metal clamps have also been employed, which were fastened above and below the two fragments, by which secure approximation was attempted.

Mr. Arthur Barker, of London, advised a subcutaneous ligature with silver wire. Later the proposal was made to suture the fragments of bone; directly by open operation. As heretofore proposed, this was also done with silver wire. There were two reasons for the failure

of these operations in former years, one was difficultly of preventing wound infection, and the other (which obtained in recent years) was the failure to understand the true pathology of the injury. The fracture results from direct violence but rarely, while the majority of cases occur as a result of sudden muscular contraction while the limb is in a state of partial flexion. The line of fracture may be stellate or perpendicular, but more often by far is transverse. Oftentimes the line of fracture lies near the inferior extremity of the bone, so that there is left but little osseous tissue to utilize for suturing. Along with the fracture the periosteum is torn and in most cases the line of its tear is not on the same level as that of the bone. On this account this torn edge falls over the fracture so that bony union becomes impossible even where proper approximation may be obtained by splint. A considerable effusion of blood occurs into the joint, the synovial sac is distended, and the articulating surfaces are separate. This distention of the joint by bloody serous fluid further separates the fragment.

The two factors last mentioned are very potent forces in the prevention of prompt and satisfactory results in the expectant method of treatment. If we remember that the patella is only a sesamoid bone in the tendon of the quadriceps extensor muscle and that the attachment of this muscle is quite broad, also that the tendon is torn transversely in these accidents at the level of the fracture, we can readily perceive that suture of this tendon or fascia, will bring the desired result without suture of the patella. Moreover this can be accomplished with absorbable sutures and no foreign (non-absorbable) material remains to cause annoyance or pain.

The patient came under my care on Sept. 8, 1908, with a history as follows:

He had fallen a distance of 5 feet, striking the anterior surface of the knee while partially flexed, and was unable to get up with the aid of the injured limb. On examination by palpation the patella was found to be fractured transversely, with the fragments considerably separated. From the history of the injury, the subjective

symptoms, and the loss of function the diagnosis was easily made. After the limb was fully extended and immobilized in that position, the patient was placed in an ambulance and sent to his home. Dr. Sherrill was then called into the case, and after presenting to the patient and his family, the advantages of the open suture over the old plan, also the remote possibility of the consequences of infection, the operation was accepted. He was removed to the Norton Infirmary, where I had the pleasure of assisting Dr. Sherrill in the operation. The procedure was carried on about as follows:

A curved incision was made across the knee just above the tubercle of the tibia and the skin and fascia dissected back to furnish free access to the damaged tissue. The hemorrhage was controlled and the clots lying within the joint, which the escaping synovial fluid did not bring out, were gently removed by forceps. No sponge or any foreign object, excepting the haemstatic forceps to remove the blood clot, was placed within the joint. Continuous chromic catgut suture was then inserted to bring the torn fragments of aponeurosis together. The covering of the patella was included with this tissue. No difficulty was found in bringing the bony fragments together, as the effusion into the joint had escaped. The muscle, the fascia, and finally the skin were sutured with plain gut; a voluminous (thick) dressing of gauze and cotton applied and the limb placed in a plaster of Paris bandage. This was allowed to remain eleven days. At the second dressing on the 13th day slight motion of the joint was made without pain. On the 24th day after operation a short plaster bandage was placed about the knee over a flannel roller and the patient was allowed active exercise. The final result was very good, patient having complete use of the limb.

CASE NO. 3.

CHRONIC TUBERCULOSIS OF KNEE.

Edna C. ; age five years. Father living and in good health. Mother died at the age of 32 years, of pulmonary tuberculosis. The patient was two years of

age at this time. This case came under my observation, June 29, 1910, with a history of having injured the knee three years previous.

The injury being caused by a fall while at play. The knee on examination presented the typical chronic tuberculosis knee, so frequently seen in general practice, considerably swollen, painful and tender, and completely ankylosed in a semi-flexed position. Indicating marked adhesions as a result of the chronic inflammation.

The tubercular necrosis in this case, so clearly shown in the skiographs made by Dr. Bruce, makes the diagnosis very clear. The squaring of the epiphysis, the enlargement of the shaft of each bone when compared with those of the normal and the detritus, indicated by the small white spots, confirm the diagnosis of chronic tuberculosis.

The early treatment of these cases is somewhat varied in the hands of the different writers, but rest and fixation are most employed and this most common method was employed in this case.

In children this method has been found to have been extremely valuable. In some instances, benefit has been obtained from the Bier treatment. In my opinion surgical interference should be delayed as long as possible in children, first, because the majority of these cases recover under careful treatment, and second, because any surgical interference with the epiphyseal end of bone tends to result in marked shortening of the limb from lack of development of the bone with the growth of the child.

Within recent years the employment of vaccine obtained by the pure cultures of bacteria such as the gonococi of Neiser, the staphylococci and etc., have been employed with much benefit in cases of acute arthritis. The dose being from 50 to 200 million bacteria. The special bacteria being used according to infection present. Autogenous vaccine can be employed, but the method requires much more care.

DISCUSSION.

DR. JOHN D. TRAWICK: I wish to speak with reference to two points in the paper. The first case reported is a very clear demonstration of the truth of the principle that not every suppurating knee joint demands amputation, if it is possible to get drainage. Here is a true demonstration of the fact that it is possible to secure complete obliteration of the abscess cavity. Possibly the responsibility for failures heretofore in some of these cases that we have attempted to treat lies in the fact that drainage was not complete. Dr. McCoy's case emphasizes the necessity for getting very thorough drainage and, at the same time, being careful not to get infection through the tubes.

Just one point in regard to the technique. I think it is sometimes possible, with a suture of this character, for a small particle of the covering of the patella itself; to escape the suture material. I simply offer this as a suggestion—that it is frequently better to suture with a separate line of sutures immediately over the patella itself, and then adopt the tissues lying immediately above. This cannot always be done, but if it were possible to line up these tissues, like to like, I would feel surer of absolute union. However, I think the result in this case demonstrates that there has not been any fault in the technique.

DR. J. D. HAMILTON: While I have had some little experience in knee-joint troubles, I could not add anything to what has already been said, except that I can recall a case, which, after treated for some time for tubercular knee-joint trouble; I diagnosed it as such, as did several other physicians. The patient objected to extension and plaster dressing. There was quite an enlargement of the joint when I saw the case, and, on account of the objections of the patient and his family, I could not give any surgical treatment until it was so far advanced that there was nothing left to be done but amputation, and after amputation it proved to be a sarcoma of the knee-joint. From the appearance of the joint and the outlines of the case it had been diagnosed by some good diagnosticians, as a tubercular joint.

I have had some experience with joint troubles in children and I fully indorse what the essayist and Dr. Trawick have said in regard to being persistent in the treatment and it will effect results.

DR. R. A. BATE: I wish that the doctor, for the benefit of some of us who are not well posted, had gone a little more thor-

oughly into the pathology of suppurating joints. I am sorry to confess that my knowledge along that line is perhaps not as clear as it might be. I believe that the majority of these suppurating conditions of the joint are presumed, when not tubercular, to be due to staphylococcic or streptococcic infection, and I should think, under those circumstances, the vaccines would offer a great deal in addition to what was done. Of course, the perfect result shows that exactly what was necessary was done, but if anything was lacking I should think it would be the vaccines.

In regard to the second case, which is entirely surgical, I have nothing to say.

In the third case, it seems to me, from the family history that was developed, it might possibly be a tubercular condition.

DR. THOS. K. VAN ZANDT: I was greatly impressed with the stress that the essayist laid upon the medical side of the treatment of knee-joint disease. Joint inflammations, as we see them, are either acute or chronic. The etiology is somewhat varied, and the prognosis depends a great deal upon the etiological factor. The presence of pyogenic cocci, tubercle bacilli, or microorganisms of acute infectious diseases; rheumatism and gout, and the rheumatoid condition, whatever its nature may be; syphilis; lesions of the nervous system, especially tabes, may be mentioned as some of the etiological factors. The great majority of cases of chronic joint disease are tubercular, the bacilli being developed primarily in the bone, the synovial membrane or the capsule and the peri-articular structures. The contour of the joint is globular, or, more properly speaking, spindle-shaped, owing to the decided atrophy of the parts above and below the joint and the swelling of the peri-articular structures. Of course, the prognosis depends also upon the extent of the disease, the condition of the patient and the treatment employed. This holds good with all the varieties of knee-joint disease, but I believe that especially is this fact—the treatment employed—most important in tubercular conditions; that is, the rest treatment.

In regard to the first case, we know that tubercular involvement, even after months or years of apparent cure, may recur in the same joint. In this young lady, however, the result seems to be perfect. We must also remember this fact, that the time necessary for a cure to take place is often very long, and there is always the possibility of a tubercular involvement of the viscera, or a general tuberculosis.

Just one other little point. For instance, in the third case, I think the doctor, with his experience in these cases will agree with me that it takes a great deal of patience and skilful work to obtain good results, especially in tubercular cases. We know that in involvement due to other conditions—the infectious cases, the rheumatic cases and the gonorrheal cases, we can nearly always get good results. Therefore, I think it can be safely said that, aside from tubercular and septic cases, which are always dangerous, we can almost always hope for good results under proper treatment—chiefly rest and fixation, or immobilization as the essayist puts it.

In the third case I would not recommend surgical interference until medical treatment had been tried for a long time and failed or the condition had become very bad.

In this patella case, of course, I believe that the open suture method was the only way to handle it.

DR. J. A. O. BRENNAN: It appears to me that bismuth paste would have been an ideal treatment in the case of suppurative arthritis. I have a case of antrum trouble in a woman who had been battered up considerably, and suffered for two months following the assault. By opening it up and using bismuth paste I obtained beautiful results, and it healed up quite rapidly. In olden times, or a few years back, a great many of the big men—in fact, nearly all of them—hesitated a long time before they would open up a joint because they were afraid of getting a stiff joint following the operation. Dr. McCoy has been very fortunate in not getting such a result.

The method he used in the fractured patella is the ideal method, provided the consent of the patient and those interested in the case can be obtained. We can get better and quicker results and a stronger joint by this treatment.

The treatment in the third case will depend upon circumstances; the future will have to determine just what is to be done in that case.

DR. C. B. SPALDING: The result in the first case is, I think unusual in its completeness. We not infrequently see such cases make complete recovery from the suppuration, but the patient is left with a stiff joint, and the completeness of the result in Dr. McCoy's case is hardly short of marvelous.

Of course, we are all familiar with the anatomy of the knee-joint. We know that the synovial membrane lines the so-called capsular ligament, which, speaking in the true sense we find

around the hip. This synovial membrane communicates with the bursa of the patella. Now, to my mind, an acute infection, requiring as extensive drainage as in Dr. McCoy's case, passing through the synovial membrane that lines the joint proper, would render that joint absolutely and permanently immovable. I do not see how that could be avoided, if the whole area were involved. However, from the location of the sears in this case, I would judge it to be possible that the patella bursa and a portion of the communicating duct between the patella bursa and the joint proper, were involved, and from there the infection extended out into the muscles of the knee-joint, being walled off from the joint proper in about the same manner that appendiceal abscesses may be walled off from the general cavity. I would like for Dr. McCoy to say, in closing, whether or not the drainage tube passed between the end of the femur and the end of the tibia, or whether it passed above those two bones and through the area involved underneath the patella and patella bursa. In such a condition I think it would be possible to get this kind of a result.

In the case of fracture of the patella, I think the whole secret lies in the explanation the doctor has made; that in years gone by this condition was not understood, that is, the idea of approximation of two fragments, or three, as the case may be, by bandages, adhesive plaster, etc., was impossible. The bone is situated in the quadriceps extensor tendon, and when spontaneous fracture from muscular contraction occurs, the tendon which covers this bone contracts and results in an hour-glass condition between the fragments, making it impossible to approximate the two ends of the bone. Consequently, the only way of obtaining absolute recovery in these cases is by the open method, whereby this intervening tendinous structure, and blood clots, may be removed, and approximation then effected. Although I have seen these cases, with the bone all mashed to pieces, recover without operation, and be able to use the leg with comfort and a fair amount of mobility, still the result following the open operation are so good as to make it far preferable to the old method.

Dr. McCoy (*Closing*): I thought that these three cases would present as great a variety as any three cases I could select, and as Dr. Hamilton remarked, these conditions are the ones that are so frequently seen in general practice.

In regard to Dr. Trawick's discussion as to the approxima

tion and suturing of the different tissue, I referred to that in the paper stating that the torn fragments of aponeurosis and periosteal covering of the patella, were included in one line of suture of continuous cat-gut, which brought the bony fragments together very nicely, after which the muscle, the fascia, and finally the skin was sutured with plain gut.

I did not speak of the treatment by Buck's extension which method is often used in the treatment of these cases. I think the fixation method is a more practible one in such cases as is presented in this child. Patients similar to this one cannot be put to bed and the extension method practiced for months, without disadvantage to the medical treatment.

I agree with Dr. Bate regarding the administration of olive oil in these cases. I believe that it is important in the medical treatment; nourishing the patient, building up the resistance of the system and fortifying it against further invasion.

In regard to Dr. Spalding's question as to passing the probe through the joint, I will say that I was able to place the drain age tube between the femur and the tibia.

A point that I think worthy of mention in the treatment of this case is the importance of allowing the patient the exercise on crutches, thereby deriving benefit from the open air, its psychological effects, etc.

I wish to apologize to the members for presenting to them this first case without more scientific investigations made during the treatment. As I stated in the paper I carried out the wishes of the family to a considerable extent and in many instances I was not permitted to carry out investigations had I had their consent and financial assistance.

I was in hopes that Dr. Bruce would be here to-night and bring out the value of the X-ray in the diagnosis of these cases of tuberculous joint diseases. The interpretation of skiagraphs, especially in the early stages is very important.

At a medical meeting here about a year ago Dr. Bruce reported sixty cures of tubercular joint disease by radical operation in which an early and timely diagnosis by X-ray had been made.

In regard to Dr. Brennon's suggestion of using bismuth paste in suppurative arthritis, I will say I hardly felt like putting it in the joint in this case, it was responding nicely to the irrigation and drainage tube and fixation by posterior splint and I was satisfied with its doing well.

Selected Article.

MANAGEMENT OF THE BREAST IN THE PUERPERIUM AND DURING LACTATION.

BY CHARLES S. BACON, M.D.,
CHICAGO, ILLINOIS.

As it would be impossible to enter into a discussion of the reasons for the methods of management of the different problems that arise in caring for lactation without taking up much more time than can be allowed to-night, I must content myself with presenting my own views on the various problems without justifying them by authority or records of clinical experience.

The proper management of the breast means developing and maintaining a normal lactation, that is, the securing of a sufficient supply of good milk to nourish the child. This implies a proper dietary and regulation of nursing, and involves the avoidance or proper treatment of all accidents to the breasts, especially infection, which might interfere with their function.

It is hardly necessary to speak of the importance of securing a normal lactation, for it is now generally admitted that breast milk is much better than any other food for the child.

Occasionally a mother should not nurse, and then lactation must be stopped. The indications for stopping lactation are, death of the child, lung and throat tuberculosis, and serious heart or kidney disease or other general disease that would make the drain of nursing a menace to the life of the mother. Unmarried women who have to give up their children must also be included in this list. These should nurse as long as possible in order to give the child a good start. Syphilis and acute infectious diseases are not generally indications for stopping nursing, neither is appearance of menstruation.

Lactation can be stopped best at any stage by simply applying supporting bandages, as will be described presently, to prevent the discomfort due to the dragging down of the heavy breasts. If the patient is still in bed ice bags can be applied for a day or so or when the congestion is most painful. If she is already around and the breasts become painful she should lie down at intervals in order to apply the ice. It is not necessary to use any ointments or internal medication, and breast pumps

are not only unnecessary but undesirable. Proper massage, according to a technique to be given shortly, might be employed when the discomfort is great, but the ice applications are equally efficacious and less troublesome. There is absolutely no danger of infection or other injury to the breasts if they are let alone. The lay notion that the milk in the breast may become dangerous is absolutely unfounded. The small amount of milk in the ducts is quickly absorbed and the lymph surrounding the areolæ and small ducts soon disappears.

The antelactational treatment has for its object chiefly the preparation of the nipples to cleanse them from bacteria, which sometimes collect in large numbers under the crusts formed by the gravidal secretion, and to toughen them to resist the results of nursing. Daily washing with soap and warm water during the last month of pregnancy, with thorough drying and rubbing with a clean towel, is all that is necessary. A month of this treatment is sufficient to get the nipples in good condition. The bare possibility that the manipulation might start up labor would contraindicate much rubbing early in the pregnancy, and in women particularly liable to miscarriage. Both ointments and astringents seem to me to be unnecessary and undesirable. When the nipples are depressed, pumps and manual manipulation to draw them out are sometimes recommended. I have not had satisfactory results from this treatment. After lactation begins, the nipple can generally be evolved by proper manipulation and as readily when no previous treatment has been instituted, as when this has been done.

The proper time to begin the nursing depends on the needs of the child, the activity of the gland, and the condition of the mother. Premature children must have food shortly after birth, while a well developed child can get along without food for two or three days without danger. There is no doubt, however, that the earliest secretion, the colostrum, is of considerable value to the child and should be secured if possible. A good average rule is to put the child to the breast three to six times a day for the first two or three days.

On the second or third day, when the breast becomes congested on account of the distension of the lymphatics and blood-vessels supplying the secreting gland structures, there is generally more or less discomfort. This can be reduced in most cases by bandaging. The object of the bandage is support and

not compression. It must be applied always so as to give relief and not cause more pain. This will be accomplished if it is applied so as to hold the breast to the front of the chest. The best form of bandage is made of strong muslin long enough to go around the chest and pin in front. It should be about sixteen inches in width with notches seven or eight inches deep for the shoulders over which the edges of the notches are pinned.

If the patient is very sensitive and not sufficiently relieved by the bandage, ice bags should be applied as directed when describing the management of lactation. Formerly I frequently employed massage for this purpose but lately I have almost discarded the manipulation because of the satisfactory results obtained by the ice.

Massage of the breasts, if employed at all, should be given in accordance with the principles and with the technique formulated in my paper previously presented to this society (Proceedings of the meetings of the Chicago Gynecological Society, March 21, 1902. Published American Journal of Obstetrics, volume 45, June, 1902) which consists in reducing the lymphatic and nervous congestion by rubbing away from the breast.

The pump is apt to be painful, its use is not founded on the right principle, and it should be avoided.

The rules for the frequency and length of nursing, after the establishment of the secretion, depend upon the amount of milk obtained by the child and the character of the secretion. The quantity of milk secured by the child may be determined if necessary by weighing the child before and after nursing, in a good scale that weighs to one-fourth ounce. The daily weight of the child generally furnishes a satisfactory index of the progress. A weekly gain of four to seven ounces we consider normal. To make this gain the child at term must take milk equal to about one-eighth of its weight per day and a premature child requires about one-sixth of its weight. This quantity can be secured by the normal term child in from seven to ten nursings, while a weak or premature child may need to be fed each hour and a half both day and night. As the quantity and character of the milk furnished by mothers differs, as well as the size of the child's stomach and the needs of the child, it follows that we can make no uniform rule for the frequency or regularity of the nursings, but the nurse or mother guided by the physician, should be able to determine the proper nursing schedule for each

child. In hospitals it is true that babies do well with a uniform schedule, generally of ten nursings a day.

The length of a nursing is generally from ten to twenty minutes. If the milk comes freely and the child nurses vigorously eight or even five minutes may be sufficient. If the milk is abundant the breasts may be given alternately. If it is scant both breasts should be nursed every time. Here we generally put the baby first to one breast and then change to the second, and at the next feeding put it to the second breast first. Likewise when the milk is scanty we increase, not diminish, the number of nursings. The stimulation of the breast by nursing is one of the best ways to increase the amount of milk and decreasing the number of feedings is the best way to dry up the milk. Of course, if the baby does not get enough from the breasts its ration must be supplemented with cow's milk or other artificial food given after nursing.

Does the quantity or the character of the milk depend upon the diet of the mother? To a certain degree, yes, but the diet is a much less important factor than is commonly supposed. A general mixed diet containing a fair amount of nitrogenous elements is best both for the quantity and composition of the secretion. A fair amount of milk in the diet is desirable because it is itself a mixed diet, but it should not be carried to excess.

There is no objection to plenty of fruit in the ration. The studies of Baumm, in Breslau, as well as of numerous others, have shown that the common idea that fruits or other acid foods cause colic or other disturbances in the baby is unfounded. The only question concerning fruit and common vegetables is that of their influence on the digestion of the mother.

Cooking and serving is generally of more importance than the quantity or quality of the food in affecting the supply of milk. The nervous element is very important and a mental or moral disturbance generally affects very unfavorably the character and quantity of the secretion. Securing a favorable environment is therefore one of the most important duties of the medical attendant and nurse. This includes especially the management of a colicky baby so that it disturbs the mother as little as possible. It is a common practice among nurses and friends, sometimes also of the physician, to tell the mother that the colic of the baby is due to her milk. One of her first deductions is that she must stop nursing. This course must also be suggested

by the attendants. This generally increases the mother's worry and makes the condition worse. The opposite course should be taken. The colic should be made light of and the disturbance of the baby kept from the mother as much as possible. The mother should be assured over and over again that her milk, even if not perfect, is the best possible for her baby and that it will soon improve. The constant worry about the harmful effects of fruits or other articles of diet kept up by the continual discussion of this subject should be put a stop to, and cheerful subjects for conversation substituted. Exhaustion from social or other duties should be avoided. In short, in these difficult cases of lactational disturbances the physician must often assume the role of a nerve specialist and lay out a careful plan of management as he would in a severe case of hysteria or other neurosis.

Unfortunately in these cases the chemical examination furnishes but little aid in the management. Not infrequently the sugar content is increased and sometimes the fat or protein elements. But the discovery of these facts helps us but little in the management. It is possible that the biological examination may in the future give more assistance, for it is probable that milk enzymes are more important digestive factors than variations in the chemical composition. At present we are as little able to change by diet the enzymes of the milk as we are the chemical content.

We have stated at the outset that the proper management of lactation involves the avoidance or proper treatment of infection of the gland and nipple. This phase of the subject will be considered under the following heads: *a.* Influencing factors, *b.* Sources of contamination. *c.* Method of preventing infection. *d.* Method of treating infection.

The length of nursing, the time it takes a child to get its ration, depends upon the supply of milk or the activity of the secretory gland and the ease of the flow. The size of the ducts may be a factor in determining the flow, but I think it is much less important than the activity of the gland. When the milk is poured out in abundance as soon as the stimulation of nursing is applied, I imagine that the child will have less difficulty in getting it. With a slow and deficient secretion the suction required and the length of the nursing will be much greater and the risk of injury and infection will be proportionately increased. This strong suction probably explains the blisters, varying in

size from the head of a pin to that large enough to cover the end of the nipple, not infrequently seen on the nipple in the first day of nursing.

The character of the nipple, its size, the ease with which it is grasped by the child, is also an element in the duration of nursing. A depressed nipple, for example, may need a good deal of manipulation before it can be seized, and this of course increases the risk of infection. A nipple with fissures or furrows either longitudinal or transverse is easily eroded, so that a certain amount of infection is almost unavoidable.

A further factor influencing infection and determining its extent is the resisting forces of the maternal organism. This is a factor in all infection and depends on the general health, degree of anemia, and the immunity to the attacks of the germs likely to be found in the contaminating material.

The sources of contamination are the bacteria of the skin of the breast, whose numbers will depend upon the thoroughness of the previous cleaning, the dirt from the clothes coming in contact with the nipple, the dirt from the fingers of the mother and nurse when they "pull out" the nipple to help the child to take hold, the content of the mouth of the child, which is not usually of importance unless the child has thrust or other mouth disease, and the dirt or pus from the face or head of the child, which is of great importance if it has pustules or sore eyes. An occasional source of infection is also pus in one or more of the Montgomery glands.

The rules for the prevention of infection are easily formulated when the probable sources of infection are known, and the results of rules are determined from clinical experience. I have come to adopt the following:

The nipples and areolar regions are washed thoroughly with soap and warm water before the child is first put to the breast and afterwards at least once a day.

The nipples are covered with four thicknesses of sterile gauze, six to nine inches square, held in place by the breast bandage. These pieces are changed two times a day or oftener if necessary.

The nipples are washed with 60 per cent. to 80 per cent. alcohol immediately after nursing, by pouring two or three teaspoonfuls of alcohol over the nipple. This is the best antiseptic for the breast, as it is non-poisonous for the child and much more

efficient than the usual boric acid solution. It is very good to heal any slight abrasion made by the child in nursing, and is used after the nursing for this purpose, and because at this time the contaminating matter is present and most dangerous. Washing before nursing is not necessary if the breast has been properly protected.

Contamination from the fingers of nurse and mother is prevented by strictly forbidding either to touch the nipple. The nurse, professional or other, is continually busy caring for the napkins of the baby and the lochial and fecal discharge of the mother, and her fingers are necessarily badly contaminated. It is not necessary to "pull out" the nipple for it usually erects spontaneously, and if not it may be stimulated to erection by manipulation of the breast outside of the areola. In case of depressed nipple or other condition, when it might be necessary for the nurse to handle the nipple she should wear gloves.

If the nipples are tender or blistered or become abraded after nursing, perhaps bleeding slightly, a glass shield with rubber nipple attached is used during nursing. This protection is almost always necessary with fissured nipples and very frequently once or twice with nipples that show no sign of abrasion. Depressed nipples can always be managed with a shield if sufficient time and patience is given. Attention must be given to the fit of the shield. The usual shield now on the market has a bowl that is rather small and frequently the mother's nipple is so large or long that it is pinched in it. We should not try to fit the nipple to the shield but rather make the shield to fit the patient. I have had larger sizes made to fit special cases. Occasionally the nurse has some difficulty to get the child to draw through the shield, but patience and perseverance, sometimes filling the bowl with milk to get the child started, will succeed, unless the child is feeble, and then of course it may be necessary to obtain the milk by manipulation or pumping and feeding it artificially for a short time.

In case a furrowed nipple becomes eroded in spite of the use of the nipple shield, the sore or ulcer should be healed as soon as possible. Immediately after nursing, diluted alcohol should be applied with absorbent cotton until the wound is thoroughly clean and then a thin layer of collodion applied carefully. This will protect the sore till the next nursing, when it will not inter-

fare. Nursing in these cases should not be oftener than every six hours.

As the most dangerous source of contamination of the breast or nipple is undoubtedly pus from the head or face of the child, especial attention should be given to the child and particularly in cases of sore eyes or any kind of eruption. Here the face must be washed carefully before nursing. Many advise washing the mouth before nursing. This rule seems to me unnecessary and undesirable unless the child has sore mouth. Ordinarily I believe the child's mouth cleanses itself. If pustules appear on the face or head they must not be allowed to break spontaneously and the contents become smeared on the surrounding skin. They should be opened after thoroughly cleaning with alcohol, and the contents expressed, the cavity cleaned as well as possible, and then covered with collodion. Sometimes more pus forms necessitating a second opening but this is not common, and leads to no more trouble than the original pustule.

The management of abscess of Montgomery's gland is similar to the management of the pustules on the child. It should be opened as soon as pus forms, or at least as soon as any danger of rupture appears, cleaned thoroughly, and sealed with collodion.

A slight infection of an eroded or fissured nipple without general symptoms is not uncommon. Thorough cleaning with alcohol and the use of the nipple shield will control and prevent the spread of the infection without stopping nursing.

A deeper infection of the gland is manifested in general symptoms. Whether apparently slight or severe at the beginning the treatment should be radical. Nursing should be stopped, supporting bandages put on if not previously used, and ice applied. If only one breast is affected the child may nurse from the other. The mother is to be assured that it will probably not be necessary to stop nursing from the sick breast for more than four days, and that she will not lose the milk. If she has been up around she should go back to bed in order that the breast may be kept better at rest and ice applied. All cupping, pumping of the breast, massage, and poulticing should be forbidden. These measures all interfere with rest, which is the principle of the treatment and which has proved sufficient to abort the trouble in at least 90 per cent. of all cases, a better record than with any other method of treatment. When fever and tenderness have

subsided then nursing may be resumed with care, not giving up the ice for two or three days longer.

If pus has formed already and infection cannot be aborted the bandage and ice will still furnish great relief from pain. Where the continuance of fever and local tenderness with perhaps indications of suppuration show that an abscess has formed it should be opened at once. Some form of local anesthesia should be used in order that the operation is not made a serious affair. The incision should be small and a very small wick drain employed. This may be removed in from twenty-four to forty-eight hours.

A large suction cap employed during the dressing assists the drainage, and the artificial hyperemia is here an aid in the healing. The ice and bandage are used in the intervals between the dressings.—*Surgery, Gynecology and Obstetrics*.

Recent Progress in Medical Science.

EXTERNAL URETHROTOMY WITHOUT A GUIDE.

C. L. Gibson, New York, (*Med. Rec.* Aug. 6, 1910), advocates external urethrotomy done with a guide, as easier of performance than the search for the posterior end of the urethra, which must often be abandoned. He describes his technique. An exaggerated lithotomy position is maintained under general anesthesia. The index finger of the left hand passed into the rectum acts as a guide to the membranous urethra. An incision is made in the middle line, the knife being held perpendicularly through the tissues until it enters something, which is the well dilated membranous urethra. A suitable probe is passed along the knife, which is still held perpendicular, the finger having been removed from the rectum. Along this probe or director the stricture is divided. A small urethrotome or bougie is passed toward and through the anterior urethra, and a filiform bougie is entered. The knife is fitted into the staff and pushed home through the stricture, after which an Otis urethrotome is passed and the operation completed by cutting the stricture through. Bladder drainage is instituted. With great ease an instrument of suitable pattern may be passed from the meatus with the aid of the finger in the opening, so that the instrument may gently worm through the stricture without making a false passage.

DOMESTIC QUARANTINE.

The legal questions involved in the duties of health boards as regards the management of infectious diseases and the regulation of domestic quarantine are discussed by H. B. HEMENWAY, Evanston, Ill., (*Journal A. M. A.*, August 27), who points out the possible abuses of power and also of the legal check of the same by court supervision. He believes that much of the present confusion due to legal decisions, etc., as to the powers of health boards, and their possible inefficiency from this state of things, can be relieved by securing certain statutory enactments. First, it should be definitely specified in the enactment what diseases are infectious and required to be reported. Second, the hiding, concealing for neglecting to report such diseases or a suspicion of their presence should be made a misdemeanor, punishable by fine or imprisonment. Third, knowingly or willfully exposing a person to infection through neglect of the quarantine regulations should also be made a misdemeanor and punishable as such. Fourth, it should be made obligatory by statute for health officers to maintain quarantine, the minimum requirements of which should be stated. The essentials of efficient quarantine, it must be recognized, differ according to the nature of the disease and the locality. Fifth, the legal status of disease carriers, especially of typhoid and diphtheria, should be definitely stated. These individuals should be required to report regularly to the local health officers and restricted from certain occupations where they would be liable to spread the disease. A clear bill of health should not be given until after examination and the subject is found free from disease by the proper authorities. Sixth, the diagnosis of the health official should be considered final, subject only to an appeal to his superiors, otherwise the diagnosis of a competent health officer may be offset in the courts by the testimony of an irresponsible private physician, mistakes may occur but the danger to the community will justify this provision. Seventh, in the case of an infectious disease it should be obligatory on the local health officer to give the persons responsible for the care of the patient, printed instructions or orders regarding the case, including the care of discharges from the patient, and violation of such orders should be punish-

able; such instructions should not be left to the attending physician. Eighth, release from quarantine should be only on the signed permit of the health official. School-boards should not be permitted to accept such certificates from the attending physician. Ninth, health officers should be obliged by statute to keep as complete a record of the infection as possible, to trace its sources and means of spread. For legal as well as scientific reasons this report should include the results of bacteriologic and blood examinations and state whether or not such steps were made officially. Tenth, the statute should give to the health officials authority to remove patients with infectious diseases to a hospital or other suitable place for treatment. This should be discretionary not obligatory. Lastly, provision should be made for emergencies and health officers should have a certain liberty of action in the presence of dangers not provided for in the statute.

SPECIAL DANGERS ASSOCIATED WITH OPERATIONS ON THE BILIARY PASSAGES, AND THEIR AVOIDANCE.

Benjamin T. Tilton, New York (*Med. Record*, Sept. 3, 1910), enumerates the important dangers attending operations for gall stones, and points out the means of avoiding them. A knowledge of the pathology of gall stones is needed and of the manifold varieties of changes that they produce. Gall stones may be mistaken for lesions of the stomach, appendix, and other organs, and the surgeon should always be ready for unexpected findings when he prepares for an operation on the gall passages. Weight should be given to the number and severity of attacks of pain, presence of jaundice, character and location of pain. The dangers are shock and sepsis, hemorrhages, uremia, and pneumonia. A septic, jaundiced patient may not be able to endure a severe operation, while a palliative one may let him regain a general condition of health, and a second operation may then be undertaken. Operative manipulations should be simple and short.

SURGICAL MISTAKES IN CHILDREN.

S. W. KELLEY, Cleveland, Ohio (*Journal A. M. A.*, September 3), calls attention to the necessity for caution when operating on children, and gives examples, coming under his observation or to his knowledge, of fatalities from unexpected hemorrhage and bad effects from operations performed when unexpected or overlooked disease like rhinitis, whooping cough or pharyngitis existed. It is a mistake to perform an operation on a child when a fever temperature indicates the possible onset of an acute disease. A case of the bad effects of neglect to promptly remove foreign bodies from the larynx is reported. There is no safety until such are removed. Mistakes of diagnosis in children are not uncommon. Many a case of retropharyngeal abscess has been mistaken for tonsillitis, and he reports a case in which it was taken for uremia. Other instances of disease liable to cause mistakes are mentioned, such as empyema, intussusception and appendicitis diagnosed instead of pneumonia. The article is full of striking instances, too numerous to be given in an abstract, of diagnostic and surgical mistakes in treating children. Many conditions are present in the child which never or seldom occur in the adult, and it is a great mistake to consider that we can be guided by the surgery of adults in the surgical treatment of children.

WEAK FOOT.

Steinhardt, (*Cronica Medico-Quirurgica de la Habana*) does not apologize for presenting such an apparently small matter. He defines weak foot as a state of weakness or partial or complete lengthening of the ligaments and the muscles that effect the union and support of the tarsal bones. The etiology is extensive; excessive use of the feet and badly shaped shoes are the principal factors. He makes the following classification: simple weak foot, weak foot with eversion and rigidity, deformed weak foot, flat foot with eversion and rigidity, traumatic flat foot, and paralytic flat foot. Complications are varicose veins and exostoses or chronic inflammation of the inferior epiphysis of the tibia. He divides the symptoms into subjective and objective. Prognosis is always good if properly treated. The chief prophylactic measure is the manufacturing of proper shoes. The treatment should be directed to the restoration of the arch of the foot.

THE INFLUENCE OF THE USE OF THE AUTOMOBILE UPON THE UPPER AIR PASSAGES.

D. Bryson Delavan, New York (*Medical Record*, August 20, 1910), reviews the effects of riding in the automobile on the upper air passages. It affects both the user and the passer on the street. The injurious factors are temperature, air currents, and pressure, impurities in the air, dust and smoke. Strong drafts cause rapid cooling, and may bring on ear and sinus troubles. Inhalation of smoke and dust causes irritation of the air passages. The eyes need protection, but still more important is it to use a respirator to prevent inhalation of dust and fumes from the motor. The pungent fumes cause much irritation. Theoretically respiratory diseases should be much increased, practically they are not. The great life insurance societies do not make chauffeurs greater risks than other persons. It is a popular fallacy that exposing the neck and throat will harden them. Acute catarrhal states of the ears and air passages should contraindicate motoring. Advanced tuberculosis with fever also contra-indicates it. There are a certain number of risks to be taken, but some of them are removed by proper protection. Properly used in suitable cases it is a valuable therapeutic agent. We need good roads, well-paved streets, free from dust, and enforcement of laws against smoke and fumes, such as are found in all European cities.

TYPHOID FEVER PROBLEMS.

W. F. DUTTON, Carnegie, Pa. (*Journal A. M. A.*, September 3), criticizes the United States Government for its ineffective work in regard to the prevention of typhoid, as compared with that against some other diseases. It has been a comparatively recent thing for states and municipalities to take up this subject, and it has been especially neglected in the rural districts. In northern Canada, during 1909, typhoid appeared to be generally epidemic, especially in the mining regions. The only preventive measures used are the occasional disinfection of stools

and urine with chlorid of lime or bichlorid of mercury, and the boiling of drinking water. Contaminated springs and wells are not condemned, but are cleaned out, sprinkled with lime or salt and used again. Dutton has personal knowledge of wells that have been the source of typhoid for years, but any reference to them as a means of infection is received with apathy by the consumers of the water. Present-day problems concern first the individual; second, the community, and third, the state. The individual in health may be the means of carrying and distributing typhoid germs, and Dutton believes that through errors of diet the colon, paracolon or typhoid bacilli may generate typhoid. The individual must be educated to know the perils and avoid them. The problem of the community is a little more difficult. There may be many sources of infection and the situation may be complicated by restricted powers of control. A commendable procedure, however, is the isolation of bacillus-carriers until microbes are no longer found in them, especially when they are persons employed as teachers, nurses, cooks or employees in bakeries, dairies, restaurants, etc. Hospitals especially should regulate their subordinate staff and physicians should keep a record of all typhoid cases and systematize the record of carriers of the bacillus. The prevailing idea that healthy persons cannot be brought under control like other carriers needs serious consideration. The state is the great supervisor of medicine and public health, and Dutton mentions especially the work done in Pennsylvania in this regard. The water supply in small towns and rural districts presents a more difficult problem than that in larger cities, and he illustrates the sanitary methods that should be used in such communities. Municipal sanitation has taken a forward step in the disposal of garbage. The present method of constructing cesspools and vaults is faulty and needs strict regulation. The insect problem is also one to be considered. Vaccination against typhoid is in its infancy, but Dutton believes that it has a future and will become effective and valuable. He holds that the state should be the supervisor of all water supplies for cooking and drinking purposes. It should specify the sources and how they are to be protected and otherwise prevent all violations of hygienic or sanitary rules.

Society Proceedings.

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo.

(Continued from page 481).

"VILLOUS TUMOR OF THE RECTUM."

By T. Chittenden Hill, M.D., of Boston, Mass.

The author stated that a villous tumor of the rectum is very uncommon and but few cases have been recorded in current literature. B. Merrill Ricketts reported a case before this society in 1907, and states that but "Sixty-two cases have been reported, nine of which have been by six American authors." Since then I have been able to find but one case reported by Vautrin—(*L' Review de la Gynecologia*). His article is the most accurate and painstaking observation to be found on the subject.

It is rather difficult to arrive at any conclusion as to their relative frequency by studying the reported cases or by searching hospital reports, as these border-line tumors are generally very loosely classified. Probably the most accurate data at our disposal may be had from St. Marks Rectal Hospital, London, in which twenty-five villous tumors are tabulated among 42,343 patients with rectal ailments.

The chief point of interest about these tumors is that a certain percentage of them show a marked tendency to undergo malignant degeneration. From the histories of the thirteen cases cited by Ricketts, including one of his own, we learn that three recurred and three did not. Those with a broad base, later became malignant, while those with a pedicle did not. Of the other seven cases no mention was made as to the final outcome.

Goodsall and Miles have had twelve cases—eight in men and four in women, of which number two ultimately became carcinomatous.

From careful study of these cases and several others the author believes that if there is a distinct pedicle without infiltration of the adjacent mucous membrane, tumors of this type are generally benign and if completely removed by ligation, or otherwise, there is but little likelihood of their recurring. On the other hand, if the base is broad, whether there be induration or not, a total extirpation of the rectum should be advised.

Another point of some interest borne out by a study of these cases is that the longer the condition has existed the less likely

is it that the growth will prove malignant. The case now reported seems to bear out this statement.

Mrs. M., forty years of age, was referred by Doctor J. H. Vaughn, of Everett, Mass., January 5, 1907. She was well-nourished, weight about normal, but anemic, with sallow complexion. Had had indigestion for years but in other respects was in good health. For the past six years had noticed small rectal hemorrhages. During the year previous the hemorrhages had become more profuse and the mass was always protruded at the anus during defecation and even after slight exertion when walking.

She had to go to the toilet several times during the day and to get up two or three times at night, when she would pass one-half cupful of blood-stained mucous; also considerable mucous would at times escape with flatus. For two months, tenesmus had been present nearly all the time. She did not complain of anal or sacral pain.

Rectal examination. Sphincters, peri-anal skin and anal canal, were perfectly normal. In the rectum was felt a slippery growth with a band-like pedicle one inch wide by one-half inch thick, attached obliquely with the long axis of the rectum. By careful manipulation the writer was able to bring outside the anal orifice, a lobulated cauliflower like mass, the size and shape of a large English walnut, from which there was a gentle oozing of blood while it was held outside by the sphincters.

Operation January 8, 1907. The sphincters were stretched after infiltration with one quarter of 1 per cent. cocaine solution and the mass drawn down with the finger and the pedicle infiltrated and clamped about half an inch from the margin of the tumor.

The pedicle was then transfixed on the proximal side of the clamp and ligated with Pagenstecher No. 5, in three sections and the pedicle cut away on the distal side. An ounce of bloody mucous escaped from the anus during the dilation.

The operation was easily performed and with but little discomfort to the patient under local anesthesia.

Over three years have now elapsed since the case was operated upon and as yet there is no sign of recurrence.

The report of Dr. Louis Hoag upon specimen, January 8, 1907, was as follows: "Pedunculated cauliflower tumor of flattened spheroidal form of pale brownish red color and $4 \times 3\frac{1}{2}$ cm. in size.

Surface quite regularly broken by deep narrow pits and furrows between and among hundreds of small hemispherical ovoid and spindle-shaped lobules ranging from one to three mm. in diameter. Such are soft, juicy, but not necrotic and of uniform pale brownish red color. Surface always smooth and glistening. Irregularly distributed are deeper clefts outlining pyramidal divisions of the tumor, each bearing upon its base, which is directed outward, a number of the lobules just described.

Toward the periphery of the cross section of the tumor the lobules are of uniform-soft consistency and of uniform pale-brown red color. Centrally the pale pedicles, which are about four mm. in diameter, enter the tumor at a sort of hilus and its white fibrous tissue bearing numerous small blood-vessels spreads out to be finally lost in the similar tissue of the apices of the various pyramidal divisions of the tumor."

"ANO-RECTAL AFFECTIONS OF INFANCY AND CHILDHOOD."

By T. J. Zobel, M.D., San Francisco, Cal.

This paper briefly described those ano-rectal affections of infancy and childhood which may appear on one's daily work or in consultation practice.

From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded.

The various malformations were enumerated and briefly described. Some of these abnormalities pass unnoticed throughout a long life but others are the source of great discomfort and distress.

Mention was made that while hemorrhoids are common in adults the possibility of their presence in the young is rarely considered. Yet they may appear in children of tender years. The various causes for hemorrhoids in the young were reviewed in this paper.

Malignant growths of the rectum while rare are occasionally met with. Cases were quoted where the disease was found in children as young as five years of age.

Benign growths are more common. Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and like them, may become strangulated. They may exist

for some time and attain quite a size without producing any symptoms until strangulation occurs.

Fissure of the anus is believed by the writer to be present more often than it is usually diagnosed. It may cause severe crying in nurslings. May cause reflex symptoms to appear which for a time may baffle the diagnostician. Some of these may resemble coxalgia. The incautious and improper introduction of syringe nozzles and thermometers into the anal canal frequently cause fissures. Other causes were also mentioned.

Especial stress was laid on the subject of *Pruritus Ani* in children. The writer believing it to be a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed and he believes that it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. The child is seen to rub his anal region saying, "It hurts." Does not complain of itching. Seems to misinterpret the sensation. He has found superficial lesions of the anal mucous membrane in these cases, and as the symptoms disappeared when local treatment was instituted he feels assured that these were the cause of the trouble.

Fistulo-in-ano is met with occasionally in children and even in nurslings. While it may be tubercular it may also be of a congenital nature.

Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulae.

Prolapse of the mucous membrane of the anus and rectum is a common condition during the second and third years of life. Long continued tight binding in babyhood may be the starting point. Diarrhea is the most common antecedent. Anything that induces prolonged and severe straining at stool may be a cause. Some of these causes were mentioned.

The varieties and causes of proctitis were also dwelt upon. Proctitis is often taken for ordinary catarrhal diarrhea due to improper feeding. It is advised that when gonorrhea of the genital tract exists in children that a secondary infection of the ano-rectal region should always be considered.

It is hoped that this reminder that infants and children have ano-rectal troubles as well as adults, will lead to more thought being given in this direction, and that it will bear fruit in bringing relief to some of these little sufferers.

"THE TREATMENT OF RECTAL FISTULA."

By J. Rawson Pennington, M.D., of Chicago, Ill.

Who referred to three methods, viz.: simple incision; the injection of bismuth paste; the incision or excision with immediate suture, (Proctorrhaphy).

Of the *Simple Incision* he said: Those of us who are operating quite frequently for this malady know its disadvantage, drawbacks, and frequent failures to cure. That this operation has done more than any other, unless it be that of the ligature or clamp and cautery operation for hemorrhoids, to bring disrepute upon rectal surgery. That the laity dread a rectal operation more than any other surgical procedure because of the fear of pain, the fear of recovery and the fear of loss of control over the bowels. Yet, we know that each of the above operations in the hands of experts give good results. Concerning the injection of bismuth paste, he said: To treat a rectal fistula, the paste is liquified by heating in a water-bath and injected into one of the openings with a metal or glass syringe. The other opening or openings are kept closed by an assistant while the injection is being made. Enough force is used until one feels reasonably sure that all tracts and diverticuli have been filled. The paste may be forced into some line of cleavage if too much tension is used and carried along this line to some distant organ or healthy tissue and deposited there with deleterious results.

Of excision or incision with immediate suture, (proctorrhaphy) he said: This method is the most rational of all surgical procedures, that he dissects and removes the entire tract when a probe or director can be passed through the fistulous channel and into the rectum. That he then searches out and removes any diverticuli or tracts connected with the main tract. If this can not be, or should not be done he then incises the fistula and dissects out all granulation tissue. If needs be the wound is disinfected with carbolic acid and alcohol.

Suturing the wound may be done by Lembertizing the line of incision from its termination in the rectum to the anus. The ends of the severed sphincters as well as the deeper portions of the incision are next brought together with interrupted catgut sutures. The skin and fascia are sutured with interrupted silk worm-gut. He dresses the wound with iodoform or plain gauze and applies a T bandage. He maintains that proctorrhaphy, or the paste, or a combination of the two, offers the nearest approach we have to the ideal method of treating extensive rectal fistula.

“A UNIQUE CASE OF LACERATION OF THE SPHINCTER ANI.”

By Dr. A. B. Cooke, of Nashville, Tenn.

On February 26, 1910, the patient a boy, seven years old, was brought to him at St. Thomas Hospital, accompanied by his father and physician. The following remarkable history was related: About noon on the day named, the boy, who lived on a farm, went out to his favorite place behind the corn-crib to attend to a call of nature. While engaged in the act, a pet dog, a hound of middle size, came up from the rear and mounting him affected entrance into the anus and became accoupled. The boy's out-cries quickly brought his mother upon the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was natprally marked and in her frantic efforts to disentangle the two she used considerable violence and finally succeeded in separating the dog.

The family physician on his arrival found that the hemorrhage had practically ceased, but upon inspection of the bowel, found the parts were badly lacerated and advised the patient's removal to Nashville for treatment.

Dr. Cooke's examination found very little evidence of external injury. Traction upon the anus, however, showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out upon the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, and other partial. Anteriorly there was a second laceration, into but not through the fibers of the sphincter. In addition there was a number of minor tears in the anal margin involving the superficial tissues only.

Fourteen interrupted cat-gut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete and the patient returned home in two weeks with perfect sphincter control.

Practical Gleanings.

Headache associated with bitemporal hemianopsia is strongly suggestive of a tumor of the hypophysis. Genital atrophy, obesity or symptoms of acromegaly are corroborative. A radiogram, showing flattening of the sella turcica, is conclusive evidence.

In young children caries of the mastoid process with abscess formation may occur without involvement of the inner ear, and without fever, pain or other constitutional symptoms.

Pain over the seat of the inflammatory focus in the spine is inconstant. Vague pains occurring in the limbs, abdomen, around the cardiac area, or on the top or back of the head, or digestive disturbances that cannot otherwise be accounted for, should arouse suspicion and lead to an examination of the patient for a possible Pott's disease.

To stimulate intestinal peristalsis in cases of paresis of the bowel following abdominal operations, the use of eserine salicylate, 1-60 grain or more, is often exceedingly effective, particularly where there is increasing distension and intractable vomiting.

The X-ray is very important in the diagnosis of esophageal lesions. A case condemned as a hopeless esophageal cancer may turn out to be a curable diverticulum or cardiospasm.

Internal urethrotomy should not be undertaken in the presence of acute urethral inflammation because of the risk of infection and the probability that the operation will fail to produce permanent results.

Potassium cyanid will effectively remove silver nitrate stains. But be careful, for potassium cyanid is poisonous.

Albuminuria in a girl, without nephritis or gonorrhea, is often due to pin-worms.

Judgment must be used in employing the iodides to diagnose syphilis as many other conditions are improved by this treatment, notably actinomycosis, chronic rheumatoid deposits and chronic lymphadenitis.

News Items.

The Hospital Commission's report, regarding the plans for the proposed new million-dollar hospital for Louisville, has been received and approved by the General Council. It is published in full in this issue.

The Appeal in the case of Commonwealth against Dr. F. L. Cessna and Dr. J. B. Schacklette, of Louisville, was ordered dismissed September 22. Their names have been connected with an alleged attempt to defraud the Louisville Railway Company and the Fidelity & Casualty Company. It was alleged that they were to profit by making it appear that Arch Tyler, a passenger, had suffered a broken leg in a fall from a street car. They were absolved of the charge of criminal conspiracy in Judge Gregory's Court, the jury receiving peremptory instructions to acquit them. The Commonwealth appealed the case to the higher court to pass on the question of the right of the judge to take the case away from the jury by peremptory instructions.

Dr. Curran Pope, of Louisville, was chosen delegate to the American Medical Association which meets in Los Angeles next year. The Kentucky Medical Association will hold its next session in Paducah in 1911.

The Kentucky State Medical Association in its annual session in Lexington, September 27-29, elected the following officers: President, Dr. J. G. Carpenter, of Stanford; First Vice-President, Dr. J. W. Pryor, of Lexington; Second Vice-President, Dr. B. E. Giannini, of Coalmont; Third Vice-President, Dr. G. E. Hancock, of Henderson.

Dr. A. T. McCormack, of Bowling Green, as Secretary and Dr. W. B. McClure, of Lexington as Treasurer, will continue to fill their unexpired term of office.

By standing vote, the House of Delegates unanimously endorsed Dr. Dunning S. Wilson, of Louisville, for the position of Superintendent of the Louisville Anti-tuberculosis Hospital.

The Louisville Society of Medicine, at its last meeting elected Dr. W. A. Bolling, President and Dr. C. B. Spalding, Vice President, and re-elected Dr. R. T. Yoe, Treasurer and Dr. W. O. Green, Secretary.

Dr. F. D. Mareum, of Louisa, charged with killing John Whittaker, is reported to have been found guilty of manslaughter and punishment fixed by the jury at seven years imprisonment in the penitentiary. The killing occurred two years ago when Dr. Mareum, as Marshal of Louisa, attempted to arrest Whittaker for alleged disorderly conduct. Whittaker resisting arrest was fatally shot in the fight.

As a result of the prosecutions of seven ice cream dealers, of Louisville, charged with alleged violation of the pure food law, a compromise was effected September 3 between R. M. Allen, the State Pure Food Inspector and the attorney for the dealers, in which the dealers agreed to label their products in the future in accordance with the Pure Food Law of the State.

Dr. Bernard Asman and family will leave Louisville about the first of October for their new home at Hot Springs, Ark., where Dr. Asman has recently purchased a one-third interest in the Ozark Sanatorium.

Dr. I. N. Bloom was recommended by the Citizen's Committee as one of five to serve upon the new School Commission of Louisville. Dr. Bloom is a member of the present School Board.

Dr. Vernon Robins and Mrs. Robins, of Louisville, returned this morning from a week's stay in Milwaukee, where Dr. Robins went to attend the American Public Health Association.

Dr. H. C. T. Richmond is preparing to leave Louisville for Crosbyton, Texas, where he will reside in the future.

Dr. C. D. Render, of Louisville, who was operated on two weeks ago, has been permitted to leave the Infirmary.

Dr. Cuthbert Thompson and Mrs. Thompson, of Louisville, have returned from Saratoga Springs and Humberstone Club, Canada.

Dr. Hillary Boone, of Cloverport, is visiting in Hodgenville.

Dr. Sidney J. Meyers, of Louisville, has returned from a short stay in Cincinnati.

Dr. Frank C. Simpson has returned from a week's visit to his daughter in Grand Rapids, Mich.

Dr. James W. Ridley, of Robard, was shot by a negro.

Dr. Thomas Butler and Mrs. Butler, of Louisville, have returned from Canada, where they spent a month.

Dr. Maleom Yeaman and Mrs. Yeaman have returned from a trip to Yellow Stone Park and the West.

Dr. Henry Enos Tuley and family, of Louisville, have returned from Europe.

Dr. Michael Casper, of Louisville, has returned from Rochester, Minn., where he was operated upon three weeks ago.

Dr. M. F. Coomes, of Louisville, who has been spending two weeks in Florida, has returned.

Dr. John J. Moren and Mrs. Moren, of Louisville, have returned from Vineyard Haven, Mass.

Dr. Frank C. Greene and Mrs. Greene, of New Albany, have returned from a visit at Snow Island, Mich.

Dr. Edward Alcorn, of Houstonville, has been the guest of his daughter, Mrs. Hill Spalding, at her home in Crescent Hill.

Dr. L. R. Blanton and Mrs. Blanton, of Danville, spent a week in Louisville.

Dr. Leo Bloch, of Louisville, has returned from Bay View, Mich.

Dr. C. M. Gower and Mrs. Gower, of Trenton, were in Hopkinsville for a brief stay.

Dr. W. Francis Irwin, of Louisville, has returned from a six weeks' stay in Canada.

Dr. J. B. House, of Scottsville, has gone to Hot Springs, Ark., for the benefit of his health.

Dr. Henry M. Pusey has returned from Frontenac, Mich.

Dr. E. B. Smith and Mrs. Smith, of Shelbyville, have returned from a week's visit to friends in Frankfort.

Dr. E. L. Sigmon, of New Albany, has gone to French Lick Springs for a vacation.

Dr. A. P. Hauss, of New Albany, has returned from a trip to Eastern points of interest.

Dr. H. E. Tuley, of Louisville, was again reelected Secretary of the Mississippi Valley Medical Association at its annual meeting in Detroit last month.

Dr. M. L. Ravitch and Mrs. Ravitch have returned from Michigan.

Dr. W. T. Simrall, of Mt. Sterling, has returned from a visit to relatives in Louisville.

Dr. Charles Bowman, of New Albany, who has been in Cincinnati for a week visiting his brother, has returned.

Dr. J. Rowan Morrison, of Louisville, has returned from Fort Spring, W. Va., where he has been visiting for three weeks.

Dr. H. J. Farbach, of Louisville, has returned from a two weeks' fishing trip in Northern Indiana.

Dr. James S. Chenoweth, of Louisville, has returned home from Warm Springs, Va., where he spent six weeks.

Dr. George Pope and Mrs. Pope, of Louisville, spent a week in Kosmosdale visiting their sisters.

Dr. John G. Cecil, of Louisville, who has been in Des Moines, Iowa, for the past ten days has returned.

Dr. A. M. Pate and family, of Russellville, left for a two-weeks' visit to relatives in Oklahoma.

Dr. J. T. Ricketts and Mrs. Ricketts, of Mt. Sterling, have returned from a year's stay in Texas, and will remain in Kentucky.

Dr. J. D. Hunter, of Harrodsburg, has returned after a visit to Mr. and Mrs. J. M. Hunter, of Louisville.

Dr. Marshall McDowell and Mrs. McDowell, of Cynthiana, were in Cincinnati for a short stay.

Dr. William Montgomery and Mrs. Montgomery, of Lexington, have been the guests of Mr. and Mrs. Barbour Gray, of Louisville.

Dr. C. L. McDermott and family, of Louisville, have returned from a visit in Boone County.

Dr. T. P. Satterwhite has returned from New York City.

Dr. A. P. Jones and Mrs. Jones have returned to Oneida after a visit to Mrs. Jones' parents in Nicholasville.

Dr. Harry Taylor and Mrs. Taylor, of Louisville, have been visiting in Leitchfield.

Dr. G. W. Wroten and Mrs. Wroten, of Louisa, are visiting in New York City.

Dr. Dudley S. Reynolds, of Louisville, attended the Academy Ophthalmology and Oto-Laryngology, in Cincinnati.

Dr. Ernest B. Bradley, of Lexington, city bacteriologist, has been appointed health officer of Fayette County.

Dr. Henry Heiser and Mrs. Heiser, of Louisville, visited in Cynthiana.

Dr. C. C. Kemper and Mrs. Kemper, of Owenton, have returned from Verono.

Dr. W. L. Heizer and Mrs. Heizer, of New Haven, visited the family of Mr. Edward Heizer, in Lebanon Junction.

Dr. Forrest Musselman and Mrs. Musselman, of Cynthiana, have returned from Ashville, N. C.

Dr. Hugh N. Leavell, of Louisville, is visiting his mother in Virginia.

Dr. L. S. McMurty, Dr. Louis Frank and Dr. J. Garland Sherrill, have returned from Syracuse, N. Y., where they attended the annual meeting of the American Association of Obstetricians and Gynecologists.

Dr. Charles W. Hibbitt, Dr. Virgil E. Simpson and Dr. Dunning S. Wilson, who, as the Medical Corps accompanied the 1st Kentucky Regiment to Ft. Benjamin Harrison, have returned.

Dr. D. Y. Keith, of Hopkinsville, has finished his internship in the Louisville City Hospital and has located in Louisville.

MARRIAGES.

Dr. Alexander C. Foster, to Miss Helen Vowells, both of Owensboro, Ky., at Louisville, August 11.

Dr. Harry C. Woodard, of Louisville to Mrs. Martha Sanford, also of Louisville, in Louisville, September 27.

Aubrey V. Jones, M. D., Louisville, Ky., to Miss Mable Sells, at Anderson, Ind., September 21.

DEATHS.

Dr. Samuel T. Botts, died in his home in Glasgow, Ky., September 21.

Dr. James A. Young, died in Hopkinsville, September 24, from tuberculosis, aged 64 years.

Dr. Joseph Boyd died at Cynthiana, Ky., September 17.

Dr. Melvin Rhorer died in Lexington, Ky., September 5, from tuberculosis, aged 68 years.

Dr. Chancellor Yager, died near Shelbyville, Ky., September 3 from typhoid fever; aged 53 years.

Dr. Joseph Theodore Green, died in Louisville, August 30 from pneumonia; aged 43 years.

Dr. W. F. Armstrong, died in Henderson, Ky., September 12 from cardiac failure; aged 36 years.

Dr. John W. Klein, died in Louisville, August 13 from apoplexy; aged 59 years.

ACKNOWLEDGMENTS.

A MANUAL OF HYGIENE AND SANITATION; By Seneca Egbert, M.D., Dean and Professor of Hygiene in the Medico-Chirurgical College, Philadelphia. New (5th) edition, thoroughly revised. 12mo, 508 pages, with 97 illustrations. Cloth, \$2.25, net. Lea & Febiger, Philadelphia and New York, 1910.

ANATOMY, DESCRIPTIVE AND APPLIED; By Henry Gray, F.R.S., late lecturer on Anatomy at St. George's Hospital, London. New (18th) edition, thoroughly revised, by Edward Anthony Spitzka, M.D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1496 pages, with 1208 large and elaborate engravings. Price, with illustrations in colors, cloth, \$6.00, net; leather, \$7.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

AMERICAN RED CROSS ABRIDGED TEXT-BOOK ON FIRST AID. Industrial Edition. A Manual of Instruction. By Major Charles Lynch, Medical Corps, United States Army and First Lt. M. J. Shields, Medical Reserve Corps, U. S. Army. Prepared for and endorsed by the American Red Cross. Pages 173, with 49 illustrations. Price 30 cents. Publishers, Blakiston's Son & So., Philadelphia, 1910.

DIGEST OF COMMENTS OF THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA AND THE NATIONAL FORMULARY; By Murray Galt Motter and Martin I. Wilbert. Pages 464. Washington Government Printing Office, 1910.

MEDICAL EDUCATION IN THE UNITED STATES AND CANADA. A Report to The Carnegie Foundation for the Advancement of Teaching by Abraham Flexner. Bulletin Number four 1910. Pages 346.

FACTS AND PROBLEMS OF RABIES; By A. M. Stimson. P.P. 90, illustrated. Washington Government Printing Office, 1910

THE SOLUBILITIES OF THE PHARMACOPOEIAL ORGANIC ACIDS AND THEIR SALTS; By Atherton Seidell. Pp. 98. Washington Government Printing Office, 1910.

HOSPITAL COMMISSION REPORT.

To the Honorable Mayor and General Council of the City of Louisville:

GENTLEMEN:—The hospital bill passed by our Legislature in anuary, 1910, provides that: "It shall be the duty of the commissioners of hospital to make such careful examination of the method of construction and furnishing public hospitals as may enable it to determine the best plan of erecting and furnishing a public hospital that will fully answer the needs of the city, taking into consideration its probable growth."

"When the commission shall have determined upon a general plan for the construction and furnishing of a public hospital, it shall report the same to the Mayor and General Council for approval.

"In order to provide money for the construction and furnishing of said hospital, the General Council may adopt an ordinance submitting to the voters of the city at the November election, 1910, the question whether bonds of the city shall be issued for the purpose."

In accordance with the provisions of this law, the hospital commission is now striving to formulate methods that will meet the necessities of the case and the approval of the people in the promotion and construction of a new hospital.

It fully realizes the serious question involved, viz: the site, style and arrangement of buildings, number of wards and beds, heating, ventilation, classification of patients, isolation wards, operating rooms, provisions for medical staff and nurses, kitchen, laundry, out-patient department and detention wards, pathological department, etc., and that the hospital must represent all that is modern in the art of building, safety and thoroughness being the first requisites.

It has been diligent and has devoted much thought and time to the work in hand, and has profited by visits to hospitals in other cities, but at this time cannot do more than present preliminary or partial and tentative plans and recommendations. If, at the November election, our people authorize the issuance of bonds and the erection of the hospital, the commission will be prepared in time, with the advice of our physicians and surgeons, and the assistance of competent architects and hospital

experts, to construct and equip a modern, up-to-date hospital building, of which our community will be proud.

The present location, comprising about six acres, will be retained. It is an ideal site for a hospital and the grounds of larger area than most cities have for such purposes, it is located in the heart of the city, accessible in case of accident or emergency, conveniently situated for the medical and administrative staffs, as well as for educational purposes.

But after consulting with those conversant with the plan and condition of the present hospital and a thorough inspection of the case, the commission is unanimously of the opinion that it has out-lived its day of usefulness and safety.

It was erected by a generation unwise in hospital construction, and its condition has become lamentable. Its wards and walls are saturated with the absorption of years. Modern medicine and antiseptic surgery, with all their progress, can do little under such conditions, and the early construction of a new hospital has become a matter of common humanity.

No part of the present building should be used for a new hospital, and the old building should as soon as possible be completely demolished.

No hospital, especially a municipal hospital, can be considered as having proper facilities for scientific work without well equipped laboratories, and it is purposed to have them.

It should be of fire proof construction throughout and embody the best ideas and appliances. The roofs, reached by elevators, could be arranged for affording outdoor air and sunlight for convalescent patients and for patients requiring open air treatment. These roof gardens could so communicate that walks could extend around the entire building.

In plan the new hospital should be a modification of both the condensed and the pavilion plans, adopting, after due deliberation, what may be considered as the best features of each, the maximum of fresh air and sunshine being the main consideration.

In addition to the regular surgical and medical wards a special department should be provided where insane patients and imbeciles could be humanely cared for, pending their commitment to the asylums. Such cases are now cared for at the county jail and are treated as criminals rather than unfortun-

nates. There also should be provided a strong ward, where criminal patients could be given the necessary attention without the continual presence and expense of a sentry, which becomes necessary at times in our present hospital.

The out-patient department, so necessary as a feature of an up-to-date hospital, and such a relief to the hospital wards when properly arranged and conducted, should be of easy approach and planned as a group of communicating rooms for examination, consultation, treatment, drugs and other purposes. In a majority of cases admission to the hospital should be through this department, and it should have an arrangement of baths and lockers, so that patients entering the hospital could be bathed and a substitution made of hospital clothes for those belonging to them before they enter the wards.

Separate from the main building should be a mortuary (containing a small chapel for religious service) and pathological building, appropriately arranged and equipped according to modern methods.

The power house, containing as far as possible all noise-producing work and machinery necessary for the operation of the hospital, also should be in a detached building. The utilization of any machinery in the present power house for the new plant is a question that likewise must be taken up later.

The female nurses should by all means, have a separate house, so arranged that they may reasonable comforts and recreation and complete rest, free from noise and confusion, when not on duty.

The most serious and absorbing phase of the whole question is the housing and care of the patients during the progress of construction. It is believed that with the assistance and co-operation of the superintendent of the hospital and the Board of Safety, which has been promised, as well as your honorable boards, that this can be arranged without serious detriment to the patients.

In thus briefly outlining the general idea of what is needed, the commission asks the interest of all citizens in the erection of a new hospital, and suggestions of those experienced in the work that is to be done. It is confident that this cause will appeal to the heart of everyone, and their experience and convictions will furnish them good and sufficient reasons for sus-

taining a measure so necessary for the comfort of the suffering, and for the reputation of the city.

The index of the intelligence and public spirit of a community is the way in which it provides for the needs of its sick and poor.

The census just taken gives Louisville an estimated population of 240,000. Authorities agree that one bed to every thousand inhabitants is a fair proportion in considering the size of a municipal hospital. So contemplating the future growth of our city, the commission recommends that the new hospital contain not less than 350 beds, which would provide for a reasonable growth of the city, and allow the wards to be emptied and cleaned in rotation, thus contributing to the standard of hospital hygiene.

It is especially desired to enlist the aid and have the indorsement of every intelligent workingman who is a citizen of Louisville. To none other is the erection of a modern hospital of such great importance. People of means have at their disposal hospitals and necessary accommodations that leave nothing to be desired for their necessities; but those of lesser means, though more often in need of such services, through the circumstances of accident and disease, have not now an institution that can give them the care and attention which they have a right to expect. It is imperative to build for them, and through their indorsement, a hospital which shall be the equal in every detail of the best public hospital that it is possible to design. Our present conditions are so far short of this ideal that they are deplorable in the extreme.

All accommodations for white and colored patients, although separate, will be similar.

Respectfully submitted,

JOHN H. LEATHERS, *Chairman*;

ARTHUR PETER,

JOSEPH HUBBUCH, SR.,

GILMER S. ADAMS,

Commissioners of Hospital.

CALENDAR OF LOUISVILLE MEDICAL SOCIETIES.

(FOR OCTOBER.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Atherton," October 3, 10, 17, 24 and 31.

DR. E. S. ALLEN.....	<i>President</i>
DR. S. D. WETHERBY.....	
DR. M. F. COOMES.....	<i>Vice Presidents</i>
DR. CURRAN POPE	<i>Treasurer</i>
DR. DUNNING S. WILSON.....	<i>Secretary</i>

LOUISVILLE ACADEMY OF MEDICINE; meets at the Tavern Club October 13.

DR. DUNNING S. WILSON.....	<i>President</i>
DR. E. O. WITHERSPOON.....	<i>Vice President</i>
DR. CHARLES FARMER	<i>Treasurer</i>
DR. DAVID C. MORTON	<i>Secretary</i>

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House October 4 and 18.

DR. JOSEPH W. IRWIN.....	<i>President</i>
DR. ARGUS D. WILLMOTH.....	<i>Treasurer</i>
DR. H. J. FARBACH.....	<i>Secretary</i>

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House, October 6.

DR. J. D. HAMILTON.....	<i>President</i>
DR. R. A. BATE.....	<i>Vice President</i>
DR. RICHARD T. YOE.....	<i>Treasurer</i>
DR. W. O. GREEN.....	<i>Secretary</i>

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club, October 20.

DR. L. P. SPEARS.....	<i>President</i>
DR. CHAS. W. HIBBITT.....	<i>Treasurer</i>
DR. EDWIN T. BRUCE.....	<i>Secretary</i>

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, October 7 and 21.

DR. J. GARLAND SHERRILL.....	<i>President</i>
DR. J. ROWAN MORRISON.....	<i>Vice President</i>
DR. FRANK C. SIMPSON	<i>Secretary and Treasurer</i>

WEST END MEDICAL SOCIETY; meets at the Old Inn, October 11.

DR. I. A. ARNOLD	<i>President</i>
DR. H. L. READ	<i>Vice President</i>
DR. JOHN K. FREEMAN.....	<i>Secretary and Treasurer</i>

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Danville, Ky., November 17, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 8, 1910.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Paris, Ky., October, 1910.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., 1911.

(Exact date not determined.)

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., 1911.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." — RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

Original Articles and Clinical Case Reports are Solicited.

Reprints may be obtained at cost, if request accompanies manuscript.

ADDRESS ALL COMMUNICATIONS TO

THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,

Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

Vol. XLIV.

Louisville, Ky., November 1910

No. 11

Original Articles

POST-OPERATIVE TREATMENT.

By A. D. Wilmoth, M.D.,

Louisville, Ky.

Position.

The care of patients after major operative work carries with it as much responsibility as the various steps of the operation itself. Every surgeon who has had much experience can recall many cases with serious sequelae as the result of faulty after-treatment. This has been so thoroughly impressed upon the minds of many operators, that they now refuse to allow any one to have charge of the after-treatment, believing that the results depend as much or more on this, as on the operation itself. In the after-treatment, the first thing that demands attention is the position the patient should assume for the next few hours immediately following the return from the

operating room. For a number of years, and particularly is this true in America, patients, after serious operations, and especially those involving the abdominal cavity, were made to assume a recumbent position for from 48 to 72 hours before they were allowed to be changed. Fowler, of New York, and Allingham of England, were the first to depart from this line of treatment. To-day, very few experienced men require their patients to assume this tiresome and many times detrimental position. Most surgeons have long since learned that one of the most important things in the after-treatment is rest. This means mental and bodily rest. Patients returned from the operating room should be put in bed previously warmed either with an electric heater or hot-water bottles; if the latter are used, care should be taken to see that they are not filled with water sufficiently hot to burn the patient should it escape, nor should the bottle come in contact with the patient. These should be so distributed in the bed as to allow the patient to be placed between them, so that the heat may be applied equally to the body from the feet to the shoulders. When the patient is placed in bed, such position should be assumed as will favor the escape of mucus from the mouth during the period of unconsciousness. If for any reason it is thought best to keep the patient on the back, the head should be turned to one side and the nurse instructed to watch continuously until consciousness has been regained, to free the mouth of any vomitus or mucus that may accumulate there. Until this can be done by the patient, the nurse should be instructed to keep the mouth wiped out with a napkin as often as is necessary.

If the patient vomits the head should be turned far enough to the side to allow a thorough cleansing of the mouth, otherwise, aspiration of the vomited material into the lungs might take place. There are very few cases, indeed, that cannot be turned well on the side to favor this and allowed to remain thus until consciousness has been regained. The patient should

be propped in this position by pillows at the back with not more than one under the head; generally this latter is best left out. If the patient can be turned on the side, the limbs should be flexed and pillows placed under the knees to hold the limbs in this position. After a few hours one or more pillows should be placed along the back so as to bring the patient up and relieve the bone-prominence of pressure. This will add very much to the comfort of the patient.

Those cases of pelvic involvement, or those in which infection of the general abdominal cavity is suspected, are best placed in a semi-sitting position. This can either be done at first or better as soon as the patient regains consciousness. This position can be maintained either by head-rests or by propping the patient up with pillows; an angle of about forty degrees should be maintained if possible. This position not only favors drainage, but keeps infection in the pelvis, where absorption takes place much more slowly than in the upper abdomen, patients are also more comfortable in this position for a number of hours.

Unless a special position is desired to aid drainage, patients should be allowed after they are conscious to assume almost any position in bed that makes them comfortable. It is of course presumed that in operations on the abdomen, sufficient bandages have been applied to hold the wound fixed. The semi-sitting position is especially commended for women and old people of either sex. In the first case, cystitis is less apt to occur, and the patient can empty the bladder in the natural way; while in the second case, by placing an old man or woman in a sitting posture, we avoid hypostatic pneumonia which is so much dreaded in this class of cases.

Post Operative Thirst.

Almost every person who has undergone a surgical operation of any magnitude can recall vividly the intense thirst experienced for the first twenty-four to forty-eight hours following the operation.

This has been so great with many that they place it first in the list of discomforts experienced at that time, some going so far as to say they did not mind the operation itself, but that they had rather die than to go through with the thirst again.

Thirst is experienced after nearly every operation requiring a general anesthetic, and particularly ether; also after operations in which a quantity of blood is lost, or after opening the peritoneal cavity.

There are also several other factors that go to explain this condition, the first of these being the purgation that is practiced on most patients before operation, thoroughly depleting them; happily, this is not carried to the extremes it was several years ago.

The taking of the anesthesia as above referred to acts by destroying the liquid elements of the blood; it also destroys its oxygen-carrying power. These factors depending for their severity of course on the length of time the anesthetic is taken.

Perhaps the one element playing the largest part in this condition is the amount of blood lost as result of the injury or lost at the time of the operation, either one or both being sufficient perhaps to drain the system of the fluid necessary for the cells; as a result the cells call for fluid from every part of the body, and nature trying to satisfy this, creates the thirst.

In this condition nothing is more clearly demonstrated than the importance of preventing the above conditions from taking place, by supplying to this patient plenty of fluid before the operation; advise the free drinking of water, particularly dis-

tilled or cistern water, for several days prior to the day of operating. The old idea of purgation should be modified to simply clearing the alimentary tract with some mild laxative. The anesthetic should be given in the smallest amount possible.

Hemorrhage should be reduced to a minimum, these precautions are of course intended for those having operations of election where we can use such time and measures as best meet our demands and ideas of the case. Unfortunately many of our cases are under the head of injuries or emergencies in which we have neither the time nor power to even limit the conditions found. In such cases the cavity should be filled or partially filled with saline solution (if the abdomen has been opened) before it is closed, provided there is no contra-indications in the way, such as dangers of dissemination of the infectious material that might be in the cavity.

Where the filling of the abdomen is not practicable, the rectum and sigmoid can be filled with the saline; this can either be repeated at frequent intervals or the drop method as advised by Murphy can be used; these procedures not only limit the thirst but at the same time limit the shock these cases would otherwise have.

After the patient regains consciousness he may have the lips wiped off and the mouth mopped out with a wet napkin or the corner of a towel; later if the nausea and vomiting is slight in amount they may in from two to four hours be allowed to sip hot water in one drachm doses, every fifteen to thirty minutes; if they retain this they can at the end of from four to six hours after the operation be allowed to take a few sips of hot store tea or hot water from the drinking cup, this can be allowed in half-ounce doses every half-hour.

If all goes well for three or four hours then the patient can be allowed cool water; cold water or ice should not be given.

If it is found that a small amount of fluid causes nausea and vomiting the patient should be instructed to merely rinse out the mouth and then spit out the water; they may also hold a cool, wet cloth in the mouth; this should be all that is allowed until the stomach quiets down, then they may be again tried with a few sips of champagne, hot coffee or tea, or one-half ounce of panopepton or such foods, every half-hour in an equal amount of water.

If nausea is severe, nothing acts so well as lavage and rectal saline enemias. If there is any drug of service it is chloretone in three to five grains one-half hour before operation, followed by same amount when the patient is sufficiently conscious to swallow.

Little faith is to be placed in this treatment.

The Use of Drugs of Quiet.

The judicious use of opium in some form is a helping hand in many cases of post-operative treatment, but in those not addicted to its use and those not in acute pain or extremely nervous the drug should not be thought of. That it locks up the secretions, prevents peristalsis thereby causing gas to accumulate in the bowels, benumb the patient until the bladder will not empty itself, are facts the every-day operator cannot fail to comprehend.

If the patient is suffering acute pain, restless and wanting to be changed from one position to another there is nothing more needed than one-sixteenth to one-tenth of heroin or if necessary, this can be supplemented with morphine one-eighth grain two hours later; this quiets the patient causes him to either sleep or at least remain quiet, slows the pulse, and does less harm than would occur if the patient is allowed to continue for hours in this restless state. Remember that little harm

is done by one or two small doses, but the frequent repetition is what causes the trouble. It should be used as infrequently as possible, each case being a law unto itself.

If the opiates are known to have a deleterious effect on the case they should not be tried, but other drugs should be substituted, viz., the bromides or chloral either single or combined should be given per rectum dissolved in two ounces of luke-warm water to which enough store starch has been added to make it the consistency of cream; trional per os or sulfonal, preferably combined in twenty to thirty-grain doses are good; and lastly I would mention the use of hydrobromate of hyosine by hypodermic use, this drug acting so differently even in the same case makes its use so limited as to only require mention.

Nausea and Vomiting.

There is perhaps no more troublesome complication following immediately after the placing of the patient in bed, and continuing from a few hours to several days, than that of nausea and vomiting. A certain amount may be expected, following almost every anesthetic. This is particularly true of ether more so than chloroform. However, all anesthetics have furnished their quota of cases whether given as a general anesthetic, either by inhalation or per rectum, or as a local anesthesia, injected either into the spinal canal or into the tissues. The vomited material usually consists of mucus that has been swallowed by the patient, or that has accumulated in the stomach during the operation. This of course is mixed with the anesthetic, which adds very much to the irritation of the stomach wall. In those cases which have been imperfectly prepared, we have of course to contend with particles of food, either solid or semi-solid, and fluids of various kinds given too near the operative time. Such cases will be more troublesome than those that have been properly prepared.

This subject has so impressed itself upon the mind of the surgeon, that nearly every remedy has been used for the purpose of either controlling or shortening the period. Since we have learned that the vomiting is not the result of the ether or chloroform that finds its way into the stomach, fewer remedies have been used in an effort to control it. No remedy being positive in its action, we are forced to treat every case as a law unto itself; therefore, in those cases that have previously undergone operation, in which we would naturally expect more or less trouble, or who perhaps give a history of nausea of a troublesome character following, every means should be exercised to prevent, rather than cure.

In every case, unless there is some contra-indication, the patient should be given a hypodermic injection containing morphine gr. 1-8 to 1-4 with atropin gr. 1-200 to 1-100. This should be given at least twenty minutes before the patient is removed to the anesthetic room. The morphine serves to quiet the patient, increases the action of the anesthetic so that less is needed, and keeps the patient quiet, many times for hours after being placed in bed. The atropin controls the secretion of mucus in the mouth, and lessens complications during the operation as well as after the patient is put in bed.

In cases where large quantities of mucus have been swallowed, or in which for any reason we suspect material in the stomach, gastric lavage should be practiced while the patient is yet under the anesthetic, before removal from the table. This will remove everything from the stomach and leave the patient with a perfectly empty and clean stomach, free from any ether or chloroform that may have accumulated there. For the lavage, either plain water or normal saline solution may be used, followed if needed by either a solution of cocain 1-10 gram to 500 grams of water; or the introduction through

a tube, of mucilage of acacia; a solution containing adrenalin, or a mild lukewarm alkaline solution made from bicarbonate of soda. It is doubtful whether these procedures are beneficial.

If the patient continues to vomit more or less fluid and is in a recumbent position, the semi-sitting position should be assumed in order to favor the drainage of the stomach. This alone in many cases will be all that is necessary to control an otherwise troublesome vomiting. If the condition becomes distressing, many remedies which are simple in character may be tried. The first of these is the inhalation of oxygen, or the giving of a few sips of hot-water, or the giving of a half-glass of warm water to which has been added ten to twenty drops of the tincture of iodine. The patient will swallow this and immediately vomit it and in many cases no further trouble is experienced. Even the administration of plain water, in sufficient quantity to allow the patient to vomit and wash out the stomach, will be all that is needed. The sipping of hot unsweetened tea or coffee, or champagne has produced good results frequently where other measures have failed. Cold water and ice should be avoided, as they usually make the condition worse. An application of a mustard plaster to the epigastrium, and at the same time one to the nape of the neck will by their influence on the nervous system, aid in controlling the condition and make the patient more comfortable. The inhalation of vinegar has proven of little or no value.

If the patient is nervous, hypodermics of either heroin or morphine may be used to advantage; or an enema containing potassium bromide, 20 grains, dissolved in two ounces of water, to which enough starch has been added to make it of a creamy consistency; or, one-half pint of water to which has been added one dram tincture of asafetida may be used in the same manner.

All cases should be removed from the operating table with as little handling and disturbance as possible, and this idea should be carried out during the next few hours by keeping the patient in a darkened room, absolutely quiet.

Backache.

One of the troublesome symptoms that the patient will complain of shortly after the operation, and one that will try the nurse's patience and skill will be backache.

This is due to the muscle strain caused by lifting the patient while under the anesthetic, or their **struggling** at that time or in many instances no doubt, due to the patient lying on the hard glass slab of the operating table, and in some cases possibly the result of disturbed renal circulation.

The pain in this region is **not severe** as when patients were forced to remain in one position for several hours after the operation was done, but even now it occupies a prominent position in the first complaints made by the patient.

One of the first things to be tried is the use of heat to the back, this relieves the pain in most cases, and in others in which the kidney secretion is at fault it helps to stimulate this. If the urine is scanty and high-colored, plenty of water should be given in small quantities frequently repeated by the mouth, salines used by the bowel or under the skin if the stomach refuses to retain liquids, mild diuretics such as spirits of nitre may be used to advantage.

Change of position will aid much in relieving this discomfort; this can be done with pillows crosswise under the patient's hips; these can be moved a few inches every hour or two or the patient can be turned to one side or the other or in the prone position.

Nothing is too much trouble to try with those who are suffering the discomforts of the first twenty-four hours following operation.

PREVENTION AND TREATMENT OF SMALL-POX.

By J. I. Whittenberg, M.D.,

Superintendent and Physician St. John's Eruptive Hospital,
Louisville, Ky.

For the last ten or fifteen years the whole United States has been battling with this loathsome disease many times under adverse conditions. In some States and locations the proper course to pursue has been thwarted to such an extent that the fire has kept burning from one season to another, on and on until we find the number of years passed above mentioned; on the other hand if public sentiment had not been so combative against medical science the time would have only been months instead of years.

The first step in caring for this disease and stopping the spread is to quarantine and vaccinate everybody that has not been vaccinated successfully, that prudence will admit of and my private opinion is, in the strictest sense this means everyone. If the legal authorities will uphold you in your efforts and if the matter is taken up in the proper way they are generally ready to co-operate in every way possible.

As to the quarantining there are many ways to do this, first and the best is to remove the patient or patients to an isolation hospital and stop all intercourse and communication except by telephone and the clergy; as a rule, I have never forbidden a spiritual adviser visiting patients if they will comply with the rules of the institution, which I find them always willing to do, however, few ask admission.

To quarantine at any and every home where small pox may occur is not so satisfactory; first, you cannot control and prevent visiting, and if you should have a great many

patients and the yellow flag swinging at each door the business of your town is so impaired that it will take weeks—yes, months, to recover from the effects. On the other hand some of the unfortunates, and strange to say as a rule most of them are unfortunates, have not the necessary funds to defray expenses

One thing that has impressed me very forcibly the last decade is early vaccination, this can be done when the baby is born; wash the little fellow in the usual way, have the arm wiped dry then stretch the skin tight, take the vaccine point and checker a small place about the size of a pea, apply the virus by laying the side of the point on the scarified place. rub gently several times, then turn the other side and do likewise. If your point is a good one you have a perfectly immune subject until the little one is old enough to enter school and possibly longer, but I do not think it proper to allow any more time to elapse, for vaccination in infancy or childhood does not immunize as it does in adult life, many times in adult life vaccination absolutely lasts the remainder of life.

I have been asked how long vaccination lasts. I am confirmed in the belief that vaccination properly done never runs out entirely, but in many cases there is a possibility of having varioloid or small-pox. I have never seen a case of small-pox occur inside of five years after a successful vaccination, very few inside of seven, and from this time on a gradual increase.

I have my first death to see that has occurred from small-pox after a successful vaccination, last but not least I have noted the fact that where both father and mother have been well protected by vaccination the offspring, if it contracts the disease, has it only in a mild form.

One of the most valued points to be considered is the length of time after an exposure to small-pox a vaccination can be

successful and will prevent same. I have noticed this for the past ten years very closely and I find if the vaccination is properly done with good virus and within three days after an exposure to small-pox you will be able to prevent same absolutely; the fourth day is doubtful, that is, if your subject has taken on the small-pox contagion, of course this is supposed to be the case; the fifth day very doubtful; sixth day and thereafter useless to vaccinate.

I have seen enough of the spread of small-pox especially in cities to convince me that the disease is stored away from winter to winter in old brick houses much more than in light frame buildings; this I am sure is due to the atmosphere remaining cooler and damper in them through the warmer seasons. At one time I traced six hundred and forty-one cases back to an old brick residence that was only partially occupied, and at one time, about twelve or fourteen months prior had been infected with small-pox. Many other epidemics I could mention of similar origin but space will not admit, however, I am not taking the position that frame buildings will not remain infected from one winter to another, but I do believe the hot weather does affect them more and the contagion is more apt to be destroyed.

The treatment of small-pox is a very simple one and if properly carried out gratifying results will follow.

The initial stage is ushered in with severe headache, backache, and high fever, the patient often complaining of pains in lower extremities. The treatment in this stage should consist of quinia sulphate, aconite, or some of the coal tar preparations and the bowels moved freely, I usually give calomel, podophyllin and sodium bicarbonate. The doses to be governed by the age and general condition of the patient.

These symptoms pass away in three or four days to be followed by the eruption. I do but little until the eruption begins to change from the vesicular to the pustular stage, then I apply ointments freely. The one I prefer is five to ten drops of carbolic acid to the ounce of vaseline, the vaseline that is the thickest, or sold as the commonest form, is preferred.

Internal treatment consists principally of iron, quinine and strychnine. There is one thing that I want to mention as to the amount of iron the patient can stand or requires; in patients that are supposed to take as a tonic ten to fifteen drops of the tincture of chloride of iron when they are in the pustular stage, or turning from the vesicular to the pustular, take twenty drops to one drachm with as much safety and comfort as the ordinary patient takes the ten to fifteen drops, I have never been able to understand this, nevertheless it is true.

Diet should be wholesome and very nutritious and plenty of it. Patients when in the initial or febrile stage care very little for edibles, until changing from the vesicular to pustular stage. The alimentary canal most generally is in good condition and can take care of most anything presented to it, and the general breakdown of the skin and the necessary repair that much follow leaves the patient with an unusual appetite, and I, with few exceptions, satisfy same with most anything desired; of course heavy diet, grindstones, tin cans and fruit jars are restricted.

The one thing that has brought me greatest results is that for which I am most criticised by the medical profession. I never allow the patient or patients to have any water only for drinking purposes. They can have all they want to drink. I never allow any towels in the room; this is a restriction that should be borne in mind. After time has elapsed to allow new

skin to form underneath the pustule, after desquamation is about over, then I commence bathing usually one or two baths a day for three days; then if the soles of the feet and palms of the hands are examined and there are any dried pustules still imbedded, they are lifted out with a scalpel and thoroughly washed with hydrogen peroxide; then have the scalp and hair washed well with soap and water.

Fumigation.—Before entering the room which is saturated with formaldehyde fumes, instruct the patient to gradually exhale while inside; this allows the patient to remain in the room from one-half to three-quarters of a minute, then come out several feet from the room into the fresh air where the patient can breathe freely, repeating same from four to seven times

In this way the clothing and hair are as thoroughly saturated as though you dipped the patient in a solution, in this manner even the mucous membranes of the nose, mouth, and eyes are weeping. With a clean handkerchief the eyes are wiped dry. You see you are getting the patient in very good trim. The eyes should be kept closed: if not, the fumes will cause great pain, and if a great amount gets into the eyes you are liable to cause damage to the mucous membrane.

The size room I use for fumigating is five by five feet and ten feet high. For this room I use not less than four ounces of permanganate of potash to half a pint of formaldehyde.

Put the potash in a half-gallon pan; then add the formaldehyde; it will do the rest to your satisfaction.

I like this method better than the old-fashioned way of heating the formaldehyde, for the fumes are turned loose all at once and are naturally stronger.

The length of time patients should be quarantined is of very great importance. Anyone that is not thoroughly

familiar with the disease and should be placed in charge of same should hold patient for a period of twenty days at least. On the other hand, should he be well acquainted with the details the time can be safely shortened.

I watch the last few days the patient is with me, and as soon as the pustules are sufficiently healed and the new skin underneath the same is getting strong enough not to bleed, I bathe and prepare them as above mentioned and discharge them even though they may not have been quarantined but eight or ten days. Many times you may not be able to get the patient until the eruption appears. Of course the time for quarantine is shortened very much this way.

THE CHIEF FUNCTION OF THE NOSE.

By George A. Robertson, M.D.,
Louisville, Ky.

Why should so important an organ as the nose be left out of all consideration when the function of respiration is under discussion. It is part of the breathing machinery, with its spaces and cavities, air chambers and accessory air cells. From the time air enters the nostril to the time it glides smoothly into the trachea, it is being prepared for the lung. The physiological exchange of gases, the activities of the blood in the pulmonary arterioles, with relation to the air in the bronchioles and the air cells of the lung, do not enter into this discussion. But these anatomical conditions, and the functions of each part of the nasal space, do demand our attention.

Little is said of the function of the nose in modifying the respired air. When the outside temperature is 90 degrees in the shade: when the icy blasts of winter blow into our nostrils air that is freezing cold, do we not draw it quickly into the lung? Are we in any wise the worse for it? Do our lungs contract or expand or do any changes come at all into the routine of pulmonary activities because the temperature changes. What takes place when we climb to the highest plateaus, or idle away a summer day on the rugged coast of some sea shore? In one place there is a minimum of moisture in the air, in the other there is the maximum. But does our breathing change? Is the lobule of the lung influenced by the change?

When the grime and smoke and dust of the city penetrates each cubic inch of air, we go calmly on "drawing" breath after breath with the same regularity.

Why is all this? Where is the machinery to adjust all these varying conditions to one average? It is the beautifully adjusted system of filtration, which is established in the nasal passage.

The nose is made up of two chambers or passages, subdivided by the scroll like partitions, the turbinate bones. Of these there are three, and between them are channels, the superior, middle, and inferior meatus. Through these spaces the air is drawn, in several currents. Some air passes direct along the lower or inferior meatus, some air is deflected by the inferior turbinate and turns into the middle meatus. The deeper into the winding spaces of the nose this breath of air goes, the more slowly it moves; the more is it being diverted and split up into counter currents, eddying and swirling until the whole space is thus filled. During the time the nasal chambers here have been filling, another phenomenon has been enacted. By the contact of the air with the nasal tissues, the

body temperature has been imparted to the air, this producing by the expansion of gases a stretching of all the space and a tendency to cause the air to invade every crevice and even the most secluded and distant parts are touched. Into each one of the accessory spaces, the frontal sinus, the ethmoid cells and the antrum, the air goes.

Now the returning wave of expiration drives a clear way for itself along the floor of the nose, reversing the flow of air. But it also turns the stream to penetrate higher areas of the nose, crowding between the septum and the turbinates it percolates into all the cellular areas of the ethmoid and finally rises into the large recesses of the frontal and sphenoidal sinuses. On this returning stream it is that much of the odors rise to the olfactory area. The shape of the nostril, being not verticle but horizontal aids much in the general direction of the inspired air and forces it upward over the turbinate bones into the area of moistening and radiation.

With the next breath the air in all the post-nasal space rushes into the thorax to fill up the space made there, the air in the nose falls naturally into the empty vault of the pharynx and new air drawn from the atmosphere, passes in through the nostril to circle round and round among the many foldings of the nasal space. As this goes on the air becomes, as it were, a forced draft to ventilate the air cells of the face and head. Coming in contact with such a large area of mucous membrane it is almost instantly warmed to body temperature and ceases to be irritating to lung tissue.

How much if any air, goes directly into the lung without lingering in the nasal cannot well be established, though a certain per cent. of course must do so.

So much for the mechanical part of the act of breathing. Now let us take some notice of the action of the air upon the mucous membrane and what demands it makes in return.

There is spread over all surfaces of the nose a lining of mucous membrane, with ciliated epithelium. This mucous membrane encloses in its substance the glands secreting mucus and large cavernous spaces that swell with increase of blood. The watery elements of the blood flow through the cellular tissue when vaso-dilator impulse demand, and the cilia of the epithelial cells urge this moisture backward and it is absorbed by the air stream by the time it reaches the post nasal space. The secretions of the nose are constantly flowing like the air towards the posterior nares and the air takes up of this moisture till it has saturated itself and goes into the lung as if it were steam, so bland and moist. The two great functions of the nose are to warm the air, to make its temperature correspond to body temperature; and secondly to make it moist.

In the varying climates, in the change from day to day, there is a new demand made upon the nose every minute and the barometer of one's nasal mucous membrane is a delicate instrument indeed. Should the dryness of the atmosphere demand greater moisture the irritation of the air upon the surface of the nasal membrane produces these vasomotor changes, and the blood stream flows over its barriers into the cavernous spaces of the turbinate and exudes through the mucous membrane its serous discharge.

When the air is damp, but cool, this flood of warm blood gives off its heat, but not its serous flow. The vaso-constrictors draw up the arteries, the cavernous spaces in the turbinate membrane contract and the watery flow lessens. When the question of the activities and congestions of the nasal spaces is brought into discussion, the question of the whole order of our daily life has to be analyzed, for we live under constantly greater strain, we demand more of our bodies than they can fulfil, we build for our comfort, houses air-tight and too warm;

we rush after long hours of fatiguing labor into the cold, upon the roughest winter days, with every faculty strained, and every muscle relaxed and the nervous system tugging at our ebbing energies, to keep us in shape.

In this state of hypertention we expect the machinery of a well-ordered physical manhood to go calmly on unchanged

The relaxed condition, thrown with such violence into the crisp air, while the elasticity of the system is lost, is like a shock. It tells in the long run. Some day there will be coughing and clearing of the throat and snuffing and sneezing, and the acutely trained ear of a physician says in his own inner consciousness, "That man has reached a point where his nasal mucous membrane has lost all its elasticity." It won't work. It must supply heat and moisture when he needs it. It will not let him live in a dry, steam-heated office all day and keep him from taking cold on his way home at night. It won't let him sleep sweetly and soundly in a well-ventilated room with fresh air blowing in at one window and out the other, for he spends his days in vitiated air; has his nose dry, scratched and harrowed by particles of dust and impurities, till the soft velvet of his mucous membrane looks like the red tiles of a Dutch roof. The turbinates of these noses are large, sagging upon the floor and blocking up the space. The air can pass only in small quantities and slowly. The "swell bodies" have lost the power to contract. The mucous membrane is thickened and the glandular system is squeezed out of existence. The cavernous spaces are stretched to their limit. The moisture is lessened, and the diagnosis we make is chronic rhinitis.

These colds, these changes in the nose, these roughened places in the post-nasal space, are not the result of one exposure. It comes gradually. Our acute colds, our attacks of rhinitis, are only the exacerbations of chronic inflammation

It is the constant irritation that wears deeper and deeper into the vital function of the nose till the whole gives way. Colds come after exposure to sudden change of air; from hot to cold; from dry to moist or the reverse. When the nose has long been the area of chronic inflammation, changes of balance between the air on one side and the watery elements of the blood upon the other with finely adjusted exchange through a mucous membrane, the degree of elasticity ultimately becomes so small, the extremes of change narrows down to a place where any sudden demand is sufficient to disturb this delicate equilibrium and the acute cold results.

As a badly crippled heart goes on struggling to keep up its work by compensation, so a nose will manage its compensation, pushing over into the pos-nasal space the work it cannot do, and this truly vicarious duty makes of a pliable and velvety pharyngeal lining rough, reddened membrane, forced to give up its moisture because the nasal spaces cannot, and throwing out great excess of mucus where excessive demands make areas of dryness and the air from the nose causes friction upon the posterior wall of the pharynx. It is the watery elements that are taken up leaving the excess of mucus secretion hanging like a festoon of cobwebs upon the throat, drying gradually till they prove a source of annoyance and are cleared out of the throat by force of expectoration. The pharygeal follicles become inflamed, a laryngitis ensues and chronic hoarseness with the loss of voice follows.

The glands in the mucous membrane of the nose are found in excess on the lower turbinate and portions of the middle turbinate, because these points first meet the impact of the entering current of air.

Their activity is called into full play by the quality of air, for moisture is needed to prepare the balmy breezes for the delicate lung tissue. It is estimated that one pint of

serum is transferred by the air from the nasal mucous membrane to the respiratory mucous membrane of the lung (where mucus secreting glands are few), in the space of twenty-four hours. So the normal functions of the nose has been shown to be a system of radiators to warm, and a system of shower baths to moisten the respired air. Foreign matters, dust, irritating chemical vapors, are diluted, sifted and held by the soft moist surface of the mucous membrane, helped by the vibrissae that screens the entrance of the nostrils and cleansed away in the shower baths.

Then mucous secretion flows over the whole nasal surface, separating bacteria from their toxins, and rendering propagation of pathogenic matter, so that there is little change of infection and the air is clear and free from all impurities when it reaches the pulmonary surface.

Now the interference with activities of the nose are the result of pathological changes and the abnormalities of the nose produce changes in health and lower resistance.

Why the portal to the respiratory system is so little regarded, why it is not guarded and nursed with the greatest care, from the earliest hour of infancy is a hard question to answer.

Why the average medical authorities ignore its importance, why the family physician does not impress upon every parent the responsibility of teaching a child how to breathe remains a "Seven days' wonder."

Go into any crowded place, but particularly at a circus, or on a fair day, look at the gaping crowd. When the complete absorption of the mind, intent upon the excitements of the day, the majority of these people fall into their natural habits of mouth breathing, a habit acquired in infancy, and overcome in adult life only by will power. The deformity and vacant,

simple, idiotic look, of the mouth breather is one never to be forgotten. No one with a normal nose becomes a mouth-breather. It is always an evidence of obstructed air channels.

Those conditions which will lead to abnormal nose function fall under the head of obstruction, since the nose is but a channel for the air and olfaction its secondary function.

This obstruction may be mechanical, due to definite or peculiar anatomical relations of the various parts of the nose; it may be due to circulatory and secretory changes following chronic inflammation, causing swelling and thickening of the turbinates.

Then there are those changes which are of later development. The circulatory swelling changes to the anaemic state and lack of nutrition causes a shrinking. Here still, obstruction holds good, in this condition of atrophic rhinitis. The lining membranes atrophied and changed so that the normal function cannot be carried on, dry plugs of mucus, causing scab formation, block the openings of the sinuses and fill in the spaces of the upper part of the nose.

There is no question that the sinuses aid in rendering bland and moist the respired air, and when these air spaces are shut off from the general path of the air current, changes come not only to sinus linings, but to its useful function. Just as there are vague symptoms of weight in the ear and side of the head, when the Eustachian tube is blocked, so there are heavy and dull headaches and sense of fullness about the forehead and face when these sinus cavities are badly ventilated not to question the influence upon respired air. Should this change go on for long, the activities of nasal secretions cease to carry forward its sterilization, there is stagnation and swelling that prevents the complete bathing of all the mucous surfaces; colonies of bacteria begin to grow, more favorable conditions for infection arise and soon there is pus and abscess formation with all its attending evils.

General disease is both caused by changes in the nose and is itself a source of change in nasal function.

Twice during this year there have been epidemics of pharyngitis, and post-nasal inflammation, and the investigations as to the cause have given the same answer, though the exciting factors were different. In March there was a period of several weeks when the weather was fair and dry. The air was filled with dust and much infectious matter. Breathing in this irritating and contaminating foreign matter led to acute attacks of sore throat and bad colds.

Later in the year, during August, the days were very warm and the air heavily laden with moisture. The nights were damp and chilly, even cold. These atmospheric variations brought a change to the lining membrane of the posterior nasal space and pharyngitis, laryngitis and bad colds again became prevalent. In every case that presented itself suffering with pharyngitis and the congestion of the post-nasal space, there were changes in the nose which so interfered with the proper modifying of the respired air that irritating dust in one series of cases with its germs of infection were carried through the nose to lodge upon the pharyngeal surface.

In the other series, the reason for pharyngeal disturbances depended upon the inability of the glandular and circulatory apparatus in the middle and inferior turbinates to change the cold and damp air, as it passed through the nose, hence it reached the posterior spaces, too cold and not properly filtered, a condition depending upon changes in the nose and an evidence of obstruction and of disturbance in the regulation of heat and moisture.

Such conditions as Pharyngitis, Chronic Aural Catarrh, Bronchitis, Laryngitis and Tuberculosis can easily arise out of this modifying of the air. In children there is no doubt

much gastric and intestinal trouble comes from the swallowing of mucous, laden with bacteria, which ferments in the alimentary tract.

Intestinal absorption and many of the constitutional diseases cause such changes in blood pressure and fill the blood stream with toxins which aggravate the normal actions of the turbinate bodies.

Lastly, the effect of any abnormality in the function of the nose shows itself definitely by disturbances of health.

The typical facies of the mouth breather are known too well to enlarge upon. This, of course, is due to an obstruction, whether an adenoid, hypertrophic turbinate, deflection of septum or polyp, and makes the mouth breather a poor athlete, his wind is short and he does not gain the poise and muscular tone that activity in out-door games, in walking and riding brings. Then the mouth breather finds his teeth much out of repair. He does not find that the teeth approximate well. He does not chew his food well, he has dental caries, he has much debris about the teeth and gums, and cavities full of decaying food and bacteria. All this works down with the food into his stomach and digestive disturbances follow. The tonsil takes the greater share of the work of filtration, if the air is not sifted through the nasal passage. Tonsillitis and gummy follow.

Nasal breathing brings a steadiness to the respiration, a gradual, regular and systematic expansion of the thorax. There is none of the flat, narrow or pigeon-breasted appearance, that comes with obstruction to the nose. With this well-developed chest, comes a poise, a lightness of body, a quickness of action the centre of gravity falls in its place. The every movement brings into full play the muscles of the body, the lung fills with clear, pure, filtered air, the whole system, the cycle of blood flow, the activities of skin and

muscle and all respond to the rise and fall of atmospheric pressure in the lungs and it is all brought to its highest degree of development when the nasal function is normal.

418 Atherton Bldg.

THE IMPORTANCE OF THE EARLY RECOGNITION OF CANCER.

Isaac Levin, New York (Medical Record, August 27, 1910), again brings to our minds the advisability of an early microscopical diagnosis of growths suspected of being of cancerous nature. The malignancy of cancer is due to its power to infiltrate or to be disseminated by the blood. A malignant growth is in its early stages purely local, and cure may be obtained by its early removal. Microscopical proof of this is found in the fact that the cells of metastatic tumors are structurally identical with those of the parent growth. Nearly 20 per cent. of cases of cancer of the stomach are cured by operation, 40 per cent. of those of the tongue, and 50 per cent. of the uterus. Symptoms that aid in the early diagnosis are hemorrhage, catarrh, functional disturbances, and pain. The secretions should be examined chemically and microscopically, and electrical instrumental inspection should be made. Exploratory operation and microscopical examination of the tissues obtained come last. That early microscopical examination is not made in every case is due to the ignorance of the laity.

Selected Article

DYSPEPSIA AND INDIGESTION VIEWED FROM A SURGICAL STANDPOINT.*

By John C. Munro, M. D., Boston.

As the art of surgery advances, and as the living pathology of the abdomen is studied in its relation to clinical symptoms, the surgeon is assuming more and more jurisdiction over those fields of disease that formerly were considered wholly medical. Many symptoms once regarded as expressions of functional disorders are now believed, and with good evidence, to be due to slight pathological changes in the various viscera. The existence of these pathological changes has been recognized post-mortem, but their significance has been overlooked or underestimated by the pathologist.

The interrelation between the various viscera of the abdomen is so close and complete that a slight pathological disturbance in one organ can and may be manifested in an organ apparently quite dissociated. A similar interrelation between the viscera of neighboring cavities renders this complexity still more puzzling at times. When, however, we consider the embryological, the functional and the neurological relations of the various organs light is thrown on many of these puzzling phenomena. The association of external genital malformations with ectopic kidney, the signs of an appendicitis in pneumonia, or the pyloric spasm that follows irritation of the cecum and appendix may be cited as crude examples. It would be interesting to take up these many complex associations, but as it is, I shall consider only one broad division of symptoms. — dyspepsia and indigestion, as it bears on remote, often unsuspected, slight changes in a few of the abdominal viscera, viscera that are most frequently observed and handled by the operating surgeon and with whose multifarious pathologic changes he becomes more familiar than the internist or even the pathologist.

The terms "dyspepsia" and "indigestion," so vague and all embracing, have for the most part been considered as the result or expression of functional disturbances or of neuroses, whatever that term implies. Yet I believe that a proportion larger than at first sight would be granted by the clinician are really due to definite pathological lesions unsuspected or even denied up to within a few years. To deny, on the other hand, that dietetic errors, syphilis, arteriosclerosis, fatigue and other general functional causes may produce a dyspepsia or indigestion would be absurd on the face of it. When, however, in spite of treatment directed to the commoner functional causes, the symptoms persist or persist in recurring, then the physician must consider the various visceral lesions that are so familiar to the surgeon and whose elimination so readily brings a cure. The physician who prescribes for an indigestion on the train of symptoms narrated to him by his patient and without making a thorough examination and instituting a careful questioning of his patient is guilty of something akin to malpractice. This is a time-worn truism, but it has need of repetition today if I may judge from the accounts of many of our surgical patients. Within the last few years we have seen hundreds of patients who have been treated offhand by their physicians for functional dyspepsia when a little care in examination or cross-questioning could not have failed to demonstrate a subacute or chronic appendicitis, a cholecystitis or a duodenal ulcer. In calculating the individual attacks that these patients had suffered, and for which they had received palliative or temporizing treatment, I find that the numbers rise into the thousands. Lest I may be unjustly misunderstood, it is far to say that in many instances attacks have been recognized as due to a surgical lesion and operation has been advised, sometimes urged, while in others, attacks have been borne without professional aid, the patient perhaps having recourse to home remedies, patent medicines or to no treatment at all.

Furthermore, in justification to all of us, physician as well as surgeon, a certain small proportion of such cases are most obscure and misleading, so-called border-line cases in which the patient must be frankly told that there is probably some

visceral lesion, the true nature of which cannot be determined without surgical exploration. To throw some light on this class especially, I beg to offer some conclusions today, so far as they can be called conclusions, when the definite interrelations can be determined only with time and by the concurrence of other observers in similar fields.

That I may swing too far to the surgical side is natural, but no one is aware of that fact better than I am. I fully realize that the family doctor sees many cases of dyspepsia that quickly and happily yield to slight medication, change of diet, habits etc. These patients naturally never come to a surgical clinic. Nevertheless, when I read over the histories of hundreds and hundreds of our abdominal cases in which the symptoms are pre-eminently dyspepsia and indigestion, I believe more firmly than ever that every case of recurrent or obstinate indigestion that does not yield to the intelligent treatment of the internist should have an opinion from one who views things through surgical glasses, if for no other reason than to eliminate the advisability of operation.

To emphasize the occasional difficulty of diagnosing these cases it is not infrequent that a consultant refers to us a case of ulcer, gall-stones, etc., where we cannot find any specific excuse for operating. That we ourselves overlook a surgical lesion is occasionally proven by a later outburst of definite signs and symptoms, or, what is more embarrassing, by the uncovering at the hands of some wiser surgeon of symptoms that we had made light of, or of a history that we had not been intelligent enough to extract in our cross-examination.

In all our laparotomies where there has been an exploration "seeking for knowledge" it is extremely rare that we have not discovered some definite causative pathology, except in a small group that I shall consider later. That the future will modify my views in one way or another goes without saying. It is the history of all surgical and medical advance that the views of today are changed tomorrow.

It is no argument for the skeptic to declare that because he has never seen such and such a surgical condition, it cannot exist. That argument has been fought out over and over

again in relation to the frequency of gastric and duodenal ulcer, the relation of cancer to ulcer, etc. I well remember being told some years ago by a medical practitioner whose experience and judgment represented the highest in this vicinity that he had never seen a death from hemorrhage in a case of gastric ulcer. With my limited experience at that time I had already seen six cases. For how many years did we accept the statement, based on the authority of the keenest observers, that duodenal ulcer is a rare disease. We now believe that it not only is doubly as frequent as gastric ulcer, but if Codman's researches are confirmed, we must look upon it as being quite as common as appendicitis.

On the basis of this long preamble, I would ask you, as workers in the field of general medicine, because it is to you primarily that I appeal, to weigh what I have deduced from a pretty close analysis of a few general types of abdominal disease in the relation of definite pathological lesions to the common symptoms "dyspepsia" and "indigestion." There is hardly a single item that is new; there is hardly one, however, that does not need constant reiteration if one may judge from the experience of a single surgical clinic. I have purposely excluded all cases with definite pelvic and genital lesions and the obvious gross ulcers of the duodenum and stomach.

That I shall be misinterpreted by some, I am fully aware. Suffice it to say that I do not believe in opening every belly for symptoms of indigestion or of neurasthenia. I do believe, however, that there are unfortunates suffering from so-called (mark the word) nervous dyspepsia, indigestion, neurasthenia, etc., who can be cured by surgery alone. The true neurasthenic with incidental digestive symptoms should almost never be operated upon. A neurasthenic, on the other hand, who suffers from some pathological lesion should be granted surgical relief (if necessary) from the effects of that lesion, but should not be given any assurance of relief to his or her neurasthenia. The so-called dyspeptic neurasthenic is often another story altogether. Such a patient is unjustly stigmatized on a false diagnostic foundation and he may derive great benefit from surgery if his pathology is correctly interpreted.

I hasten to beg and pray, therefore, that no one of you will assume that our clinic may be offered as a harbor for your neurasthenies for whose welfare you are at your wit's end. A very small proportion is suitable for surgical consideration. The vast majority are still, in our judgment, most unsuitable for operative relief.

A number of years ago, when surgeon at the Boston City Hospital, where a good share of abdominal operating was in acute or emergency cases, I analyzed 200 consecutive laparotomies with a view to determine the extra responsibility placed upon the operating surgeon from the fact that he had to work at a period of the disease less favorable to the patient from the point of view of immediate and ultimate prognosis. Sixty per cent. of the cases came too late for advantageous interference. In other words, many a sufferer was brought to operation as a last resort, facing a high operative mortality and morbidity, whereas, had he entered early in the course of the disease, allowing a reasonable time for diagnosis, the risk would have been reduced tens or hundreds of times. Happily this condition has bettered itself as surgeons have improved in technique, as the general practitioner has accepted the lessons taught by surgical experience and, more than that, by the demands of a progressively better educated lay public.

The first group of sufferers from indigestion and dyspepsia that I wish to consider today is made up of those patients that have infection in the biliary passages. In the last year and a half we have operated upon 70 cases of this type, and an analysis with reference to their digestive troubles alone is in order.

Just as in our appendix cases, to be considered later, the terms "indigestion" and "dyspepsia" are used by the patients themselves and are taken from the histories as given to the surgical house officer. I find that many of them date the origin of their digestive troubles for ten, fifteen and twenty years before entering the hospital. Attack has followed attack, each one leaving the pathology increasingly difficult to deal with, often so difficult that an operation of the gravest nature must be offered them, occasionally with fatal issue. Had

the true pathology been recognized and dealt with within a reasonable time, the risk to life would have been scarcely greater than that of an interval appendix operation. Nearly all of them had been treated or had treated themselves for indigestion. Although, as our own experience shows, a diagnosis might not be clear early in every case, yet the very fact that these invalidating attacks recur time after time should be enough to compel surgical advice if not operative interference.

These infections are not necessarily confined to those past middle life. Our cases demonstrate that 40 per cent. occurred in patients under forty years of age, two of them being twelve and sixteen years old respectively. If, now, we calculate the age of onset of the primary infection, the youthfulness of patients liable to gallstones or biliary infections is doubly emphasized.

Nearly 10 per cent. of our cases had developed carcinoma which in most instances could have been forestalled by timely operation.

Those of you who have been obliged to deal at operation with the complications and difficulties that result from successive attacks of inflammation in the biliary passages will readily sympathize with my plea for any reasonable excuse to operate early in patients suffering from the indigestions associated with this type of lesion. I do not hesitate to lay the blame for some of our failures on the fatal procrastination advocated by the conservative practitioner who still clings to the time-worn fallacy that gallstones are harmless or at most very slightly harmful.

Occasionally we accidentally discover gallstones when operating for other lesions, such as fibroids, umbilical hernia, etc. On later critical cross-examination of such patients, however, we generally find that we can bring forth a group of symptoms referable to the gallstones which had been overlooked or had been ascribed to the lesion for which we primarily operated.

The disease that I wish to call attention to mainly in connection with my subject today is appendicitis. I have carefully

analyzed 250 recent cases almost entirely with reference to the symptoms "indigestion" and "dyspepsia."

However early our patients come to us for operation, and the gain is a marked one within the last ten years, there is still a considerable proportion that go on year after year suffering from indigestion and treated accordingly by medical means when really they are suffering from repeated attacks of appendicitis, which, in the majority of cases, ought to be recognized if a reasonably intelligent examination were made. Many and many a patient comes to us with the history of long and varied treatment for intestinal indigestion. Indeed, I have heard this expression so commonly associated with genuine appendicitis or gallstones that I begin to wonder if there is such a definite disease by itself. It is well to bear in mind that most of our patients are in adult life, a fair proportion being quite advanced in years. About 20 per cent. of the cases under analysis entered the hospital in their first attack. They gave no account of early bellyaches, inflammation of the bowels, weak stomachs, indigestion, etc. Apparently the primary attack came out of a clear sky, and if they entered early enough the operation and convalescence became of slight importance. A little closer examination, however, of this group reveals the fact that nearly half of them had appendices with evidences of chronic or subacute infection and that the existing attack had persisted from four days to several weeks in the various individuals. In other words, the patient had dragged around for days or weeks with an indigestion or a bellyache never severe enough to excite alarm.

The larger part of this group, dating their existing attack in the same way for days or weeks, entered the hospital because the termination of the attack became fulminating in character, and many entered with diffuse peritonitis or even moribund. In other words, about 30 of the 50 patients required drainage, suffered as all advanced cases do, and ran the risk of operative death or of the various unhappy sequelae. The mortality of 33 per cent. in this smaller group of 30 is a frightful one, and the morbidity is equally frightful. A number were moribund at entrance and died at once without operation. In

a few a tense abscess was opened under primary anesthesia. Some survived the immediate operation, to die later of secondary infection. Assuming all the responsibility that belongs to us for such a mortality, the discouraging part to us is the fact that every individual patient for days or weeks gave definite and legible signs of a so-called and so-treated indigestion. Contrast this with a second group of 50 cases in which the present attack, the primary one, had its inception within four days of operation. Although most of these cases were drained, the attack starting as a frank one, no deaths and no sequelae followed. The patients were not handicapped by a chronic sepsis; they had not been starving for an indigestion; consequently local drainage of a local infection sufficed to bring about a rapid and safe convalescence. This type of case rarely gives us any anxiety. It is perhaps asking too much that patients in this class should reach us much earlier, that is, by preference within thirty-six hours of onset, because frequently the patient does not summon medical aid for a day or two after he finds that home treatment is of no avail.

Of 90 cases that had suffered from one to three attacks previous to operation, the acute (drainage and chronic (clean) cases are about equally divided. The early attacks came at intervals varying from months to years; each one was typical of an appendicitis, of short duration, disappearing without leaving any trail of symptoms. This group is the only one that is apparently free from symptoms of indigestion. Most of them came to operation within two or three days of onset of the final infection, all recovered, and there is no excuse for including this group in the groups suffering from indigestion. Each early typical attack of appendicitis left the patient no worse than before except for the increased assurance of a subsequent attack.

The next or what may be termed the invalid group is of much more interest to the general practitioner and to the surgeon. These patients, 80 in all, suffered from five to innumerable attacks or else were constant sufferers for months or years from symptoms generally described and treated as indigestion. The detailed histories teach us that some patients

complained of constant abdominal pain lasting for weeks or months. Nearly all had more or less constant soreness of the abdomen, and a great many dated an increase in constipation from the outset. Some were confined to bed with attacks of indigestion at shorter or longer intervals; others were practically bedridden for months. Some lost weight up to 20 and 30 pounds, while in others the nutrition does not seem to have been disturbed at all.

As in the other groups, most of our patients were adults, but I find one child of thirteen that had been treated for eight years for numerous attacks of indigestion accompanied by vomiting. Some patients referred their pain, distress or nausea to the ingestion of food and had reduced their diet to the simplest equation possible, their health and resistance suffering correspondingly. Not a few had been put on a strict diet by their family physicians.

If we look at this last group of 80 cases from an economic point of view, the patient has a right to protest at our failure to recognize and treat his disease. Every patient suffered at least five attacks, others too many to be counted. If now we choose ten as the average number of attacks in which the patient was invalided for a few days at least, it means that these people suffered at least eight hundred attacks of pain, suffering and anxiety, to say nothing of the current expense of treatment, the loss of time and wages and the deterioration in productive health.

Of the last group that I wish to consider today I must frankly confess that we cannot yet dogmatically determine which will be definitely cured by operation, though we are gaining some light as to those not benefited by the removal of a damaged appendix. To analyze them in detail needs more time and post-operative observation. They can be classed roughly as cases of appendicitis with gastroduodenal symptoms, the latter varying within wide limits.

Before taking them up in detail, a short retrospect of recent gastric surgery is necessary. In 1904, I had the honor of reading before this society a paper strongly advocating gastro-enterostomy in ulcer of the stomach. The criticism of

the internist at that time was that only in the presence of obstruction or serious complication was an artificial stoma justifiable. This criticism was just, and, so far as it covers the ground, it is accepted by surgeons after a thorough and impartial trial of the operation in all types of so-called stomach lesions. Unfortunately, it is applicable to only a portion of so-called gastric diseases; there still remains a considerable number of patients that need relief by some means from most distressing gastric symptoms.

Surgical enthusiasm has at least demonstrated the frequency of duodenal ulcer as compared with gastric, thus throwing light on a group of dyspeptic symptoms that had never before been satisfactorily elucidated.

We are yet in the dark, however, in the treatment of the so-called gastric neuroses. At the time of my paper mentioned above we were deliberately subjecting the worst types of gastric neurotics to a gastro-enterostomy to demonstrate whether the symptoms were merely secondary to improper drainage alone or whether there were some other unknown but discoverable cause. It is only reiteration to declare now that gastro-enterostomy in such cases not only is of no value but in certain instances the symptoms are aggravated. This fact both Dr. Mayo and myself strongly emphasized at the Congress of Physicians and Surgeons in 1907, and we feel now that one who makes an artificial opening in the absence of a gross lesion is guilty of meddling surgery.

Can anything be done for these unhappy so-called gastric neurotics? For certain types I believe much is possible; for others surgery is either powerless or of little use even where there is an unmistakable lesion of the appendix.

For some time past we had noticed in our clinic that certain patients exhibiting most marked gastric symptoms were cured by the removal of an appendix moderately damaged. Mayo called our attention to the same fact and soon afterwards published his observations on the relation of pyloric spasm to an inflamed appendix. Recent papers by Morris, Moynihan, and Graham and Guthrie serve to clear up more and more certain types of this group. We have found that the individual

variations in signs and symptoms is quite considerable, and although certain types can be and are relieved by appendectomy of all their gastric symptoms, others are not and the exact line of differentiation is not yet clear to us.

We have operated upon some 30 or more patients included in this group, and in every one the appendix has shown a definite pathologic lesion of one type or another, such as stricture, punctate hemorrhages, obliterative atrophy or infection secondary to concretions.

A half dozen of the patients had such severe attacks of gastroduodenal hemorrhage, either in single attacks or in attacks more or less separated one from another, that there was no reasonable doubt of an actively bleeding ulcer in the stomach or duodenum. In nearly all of the 30 cases the abdomen was opened first of all in the upper quadrant. In some, although we were suspicious that the gastroduodenal symptoms were really due to an appendicitis, especially as we found evidences either in the protocol or at examination of an active infection in that organ, we did not feel justified in operating without a most painstaking examination of the viscera in the upper part of the abdomen.

Barring those with profuse hematemesis, the larger proportion of these patients suffering from appendix indigestion have been greatly benefited or cured, but the lapse of time *post-operationem* is not sufficiently long to allow us to speak authoritatively. A few in whom there were associated evidences of definite neuroses apparently have not been relieved of their latter stigmata. Although one or two patients with severe gastric hemorrhages have apparently been relieved of all their digestive symptoms since operation, I do not feel at all sure that the relief is because of the appendectomy or that it is permanent.

In every abdomen in this last group a careful examination revealed no gross pathological lesion in any other organ except a periphepatitis of unknown origin in two cases. In a few there was ptosis of some of the organs to an extent that by some would be considered causative of functional disturbances, but our increasing experience in dealing with the

abdominal cavity in all types of disease has taught us to be extremely conservative in declaring visceral ptosis, unless perhaps it is extreme, as either abnormal or pathologic.

To conclude very briefly, I would again beg the general practitioner to consider the probability of some simple surgical lesion of the abdominal viscera in his cases of persistent recurrent indigestion; that where such a lesion does exist, surgery is the safest and surest means at our disposal to bring about a permanent cure; that his neurotics with indigestion secondary to surgical lesions have the right of relief from their local trouble; that finally, there is a type of dyspepsia most naturally ascribed to gastroduodenal ulcer, but which is curable to a degree not yet definitely determined by a simple appendectomy.—*Boston Medical and Surgical Journal.*

Recent Progress in Medical Science.

ANCHORING THE KIDNEY FOR DISLOCATION OR DISPLACEMENT.

Edward N. Liell, Jacksonville, Fla., defines a displaced kidney as one out of its normal position, while a floating one is so far dislocated as to be movable freely through the abdomen. Displacement is due to the relaxation of the peritoneal fat with the natural tendency of gravity. In examining for displaced kidney the patient should be in a reclining position with relaxed abdominal muscles; bimanual palpation will show the kidney in the hypochondriac region. In operation the lumbar incision has the advantage that the kidney is easily reached and good drainage is afforded. It should be oblique, to the outer side of the quadratus lumborum muscle, from the last rib to the crest of the ileum. The operator should be careful not to open the peritoneum, or should at once sew up any incision that is made. The kidney appears in the wound in the midst of the fat, and should not be delivered into the wound on account of stretching the vessels; the operator should also be careful not to twist the pedicle; the fibrous capsule of the kidney should be gently incised. If the kidney is cut there will be free hemorrhage. Two sutures of chromicised gut are passed through the

aponeurotic flap of the wound, through the capsule, and substance of the kidney, and onward through the everted capsule and aponeurotic flap on the other side. The kidney is pushed into place and the sutures tied. This method will overcome the distressing symptoms of displaced kidney, and is easy and effective.—*Medical Record*, August 27.

HERNIA OF FALLOPIAN TUBE.

C. H. Parkes, Chicago (*Journal A. M. A.*, August 20), reports a case of femoral hernia of the right side including a pathologic Fallopian tube which could not be safely reduced. The tube was therefore extirpated close to the uterus, together with a large cystic ovary plastered up against the femoral ring. The case is not reported on account of its rarity, although it is unusual, but as pointing out certain principles of operative surgery. Routine methods are not available here. In this case the abdomen was opened in the median line and the pelvis explored, revealing the conditions. The tube was removed by incising elliptically into the right cornu and the tube lifted out of the sac through the femoral incision. The most plausible cause of the condition is that the hernia was originally a small intestinal or omental hernia; that the abdominal contents were reducible; and that at sometime when reduced were replaced by the tube which later became inflamed, adherent and irreducible. The strangulation occurred because of the interference with the tubal return circulation. It should have been a case of ovarian as well as tubal hernia, but, on account of the small ring or the cystic condition of the ovary, this was small hernial ring or the cystic condition of the ovary, this was impossible.

TWO CASES TREATED BY THE EHRLICH-HATA PREPARATION.

M. S. Kakels, New York (*Medical Record*, September 24, 1910), presents a preliminary report on the first two cases of syphilis treated in America by the Ehrlich-Hata preparation, 606. The first case was in the person of a man twenty-four years old, who had an extensive gummatous infiltration of

the liver; he had had the initial sore three years before, and gave a positive Wassermann reaction. An injection of 3 decigrams of 606 was soon followed by signs of betterment, and within two days the larger tumor had very markedly decreased in size. The second case was that of a man, thirty-six years old, who had suffered from syphilis for three years; the disease was markedly obstinate, responding hardly at all to the usual specific remedies. He was finally practically given up by his physicians, and death was regarded as certain within a short time. Within two days after an injection of 3 decigrams of 606 a marked improvement was noted, and within one week the ulceration and pustules had almost disappeared; a broken-down gumma on the nose was filled up with healthy granulations: a large and deep ulcer on the malleolus was also filled with hearty granulations, and epidermis was beginning to grow over it; and other subcutaneous gummata were rapidly diminishing in size.

ALVEOLAR ABSCESS.

S. L. McCurdy, Pittsburg (Journal A. M. A., October 8), believes that dentists should realize the seriousness of the most frequent operation they perform, namely, that of devitalizing and extracting pulp, since infection and serious bone destruction arise from this source. The symptoms are well known to all, and, especially if complicated with syphilis, may be very uncomfortable. Destruction of the bony floor of the antrum does not necessarily mean perforation of the membranous floor or infection. An alveolar fistula leading into a cavity containing a considerable portion of the tooth requires extraction of this tooth before recovery can be obtained. Persistent headaches and general reduction of health are frequently caused by very insidious alveolar abscess. He thinks it desirable, in case of necrosis of the mandible calling for removal of bone, to establish drainage through the chin and approximate the gingival margins with sutures so as to shut off the pus cavity from the mouth. Naso-oral fistula, which sometimes occurs, especially in syphilitics, can be cured after due constitutional treatment by a membranous flap from the roof of the mouth. Tincture of iodine is recommended in all suppurative conditions of the mouth as a disinfectant.

PRACTICAL POINTS IN THE MANAGEMENT OF POLIOMYELITIS AND ITS SEQUELAE.

Henry Lang Taylor, New York, N. Y. (*Medical Record*, October 15, 1910), thinks that time is wasted in treating anterior poliomyelitis with massage and electricity. These agents have little effect. The prevention of deformities and their correction is of the utmost importance. But rest in bed should be maintained for a long time in order to prevent stretching of the affected muscles by the weight of the paralyzed limbs. Many cases of scoliosis in young adults have been traced to an early attack of poliomyelitis. The abdominal muscles are often affected and contribute to the scoliosis. It has been shown that an extensive small celled infiltration surrounds the vessels of the infected area; that the cord is edematous; that the motor cells atrophy secondarily; that the pia of the spine, bulb, and base of the brain are involved, even in cases showing no meningeal, bulbar, or cerebral symptoms. There are many quickly fatal cases as well as cases without paralysis. The author has notes of cases showing aphonia, dysphagia, ocular and facial paralysis, and temporary paralysis of the bladder and rectum. Apathy and moderate stiffness of the head are common. Abdominal paralysis is quite common. As soon as the acute symptoms have subsided measures should be undertaken not to allow of stretching of the paralyzed muscles by the weight of the limbs. Support should be fitted. After deformity has taken place it is important to correct it by apparatus and operations. There is no advantage in exercising the opposing muscles, but quite the reverse. Improvement may be obtained even in cases of long standing by these measures, and a fair amount of motion obtained by careful balancing of the muscles.

Varicose Ulcer.

For an old-smelling varicose ulcer, F. T. Harvey, in the *Journal of Therapeutics and Dietetics*, recommends wrapping it in gauze saturated with a solution of glycerin 19 parts, formalin 1 part, and sterile water 80 parts.

Practical Cleanings

In every case of fracture it is important to ascertain the condition of the pulse in the peripheral portion of the injured limb. Neglect of this precaution, especially after application of a circular bandage, may have the unpleasant sequel of gangrene.

Intermittent mucoid or mucopurulent discharge from the ear without pain or fever suggest nasopharyngeal disease; in children, adenoids.

Rectal feeding can usually be dispensed with after esophagotomy for foreign bodies, the patient being given small amounts of sterilized water for the first twenty-four hours, after which liquid food may be administered.

An intractable tuberculous cystitis that is not improved by silver nitrate most probably is associated with tuberculosis of the kidney, which causes reinfection.

Digital examination of the seminal vesicles is rendered much easier if the patient's bladder is full and if he is placed in a leap-frog position.

In fracture of the olecranon the patient is unable to raise the arm with extended forearm above the horizontal. When this is attempted, the forearm flexes, as the action of the triceps is needed to keep it in extension above the horizontal plane.

After performing internal urethrotomy it is advisable to pass sounds of the normal caliber of the urethra every other day until assured that healing of the wound has occurred. This is shown by the fact that the insertion of the sound is unattended with bleeding.

News Items.

Testimonial Dinner to Dr. J. M. Bodine.

The following announcement of the committee having in charge the arrangements for a testimonial dinner to Dr. J. M. Bodine, of this city, will be received with interest by his many old pupils and friends in the profession:

"For forty-five years Dr. James Morrison Bodine, as Dean and President of the Faculty, has presided over the destinies of the University of the Louisville Medical Department. Now entering his eighteenth year he continued to devote his energies to the cause of medical education. His many friends and pupils scattered throughout the country have deemed this an appropriate occasion to show their appreciation of his devotion and their affection for him personally. To this end it has been decided to give him a testimonial dinner on the 16th of December, 1910, at the Seelbach Hotel in Louisville. Those friends whom the committee has been unable to reach by invitation are cordially invited to attend, and are requested to signify such intention at once by writing to the chairman of the committee.

"The cost per plate will be ten dollars (\$10.00)."

Signed: I. N. Bloom, Chairman; Lewis S. McMurtry, J. M. Matthews, Ap. Morgan Vane, J. M. Ray and Thomas L. Butler.

The Waverly Hills Tuberculosis Sanatorium at Valley Station was formally opened October 12th.

Dr. W. P. Harvey and Mrs. Harvey, of Louisville, have returned after a ten-day stay at French Lick Springs.

Dr. Lucy D. Montz, of Warsaw, returned from a visit in Louisville.

Dr. Ezra Witherspoon, of Louisville, spent a few days in Indiana on business.

Dr. John South and Mrs. South, of Frankfort, spent several days in Louisville.

Dr. J. I. Greenwell and Mrs. Greenwell, of New Haven, visited in Bardstown.

Dr. William N. Spohn, of Louisville, has returned from a trip to Florida of three weeks' duration.

Dr. C. A. Sanders and Mrs. Sanders, of Perryville, spent a week in Louisville.

Dr. J. G. Hale and Mrs. Hale, of Fordsville, visited in Irvington on their way to Louisville.

Dr. T. C. Askenstedt, of Louisville, attended the meeting of the American Association of Clinical Research in Boston.

Dr. H. D. Rodman and Mrs. Rodman, of Bardstown, visited Dr. Samuel Rodman and Mrs. Rodman in New Haven.

Dr. Harry C. Woodward and bride, of Louisville, have returned from their bridal trip.

Dr. Harris Kelly, of Louisville, has returned from New York, where he has been taking a special course in medicine.

Dr. A. W. Nickell, of Louisville, spent several days in Indianapolis.

Dr. J. S. Girdler and Mrs. Girdler, of Smith's Grove, are the guests of their son in Bowling Green.

Dr. J. H. Lemon, of New Albany, has gone to Montgomery, Cal., where he will spend the winter.

Dr. A. H. Robbins and Mrs. Robbins, of Mt. Sterling, have returned from a visit to friends in Tennessee.

Dr. L. S. Buckner and Mrs. Buckner, of Shelbyville, have been visiting in Waterford.

Dr. Henry Scott has gone to Covington to visit his parents.

Dr. J. Garland Sherrill, of Louisville, spent several days in Lexington.

Dr. C. M. Gower and Mrs. Gower, of Trenton, made an extensive trip through Eastern Kentucky and Tennessee in their auto. They attended the Appalachia Exposition at Knoxville.

Dr. Frank T. Fort, of Louisville, attended the meeting of the American Association of Railway Surgeons, which convened in Chicago last month.

Dr. Lillian Askenstedt, of Louisville, has returned from a visit in New York.

Dr. Henry Nevitt and Mrs. Nevitt, of Stephensonport, have returned after a visit in Irvington.

Dr. Robert N. Rogers, of Salvisa, has returned to his home from a three-months' tour to the New England States in his automobile.

Dr. Walter King, of New Albany, who is connected with the United States Marine Medical Department, has been ordered to Naples, Italy, to investigate cholera conditions now prevailing at that port.

Dr. A. D. Jones and bride, of Louisville, have returned from their wedding trip to North Carolina, Tennessee and Indiana.

Dr. Forrest Lightfoot and Mrs. Lightfoot, of Cloverport, visited in Hardinsburg.

Dr. John H. Rushmeyer, of Louisville, was re-elected President of the Upper Board of the General Council.

It is announced that the American Association of Obstetricians and Gynecologists will meet in Louisville the last week in September, 1911.

Dr. Carl D. Render, of Louisville, has returned from a two weeks' visit to his home in Morgantown.

Dr. John C. Rogers, of Louisville, announces that he will hereafter limit his practice to nervous and rheumatic diseases.

At the meeting of the Kentucky Medical Association held in Lexington, Dr. William A. Anderson, of Newport, was elected Orator in Medicine, and Dr. John R. Wathen, of Louisville, Orator in Surgery.

Dr. William W. Richmond, of Clinton, Dr. Arthur T. McCormack, of Bowling Green, and Dr. Curran Pope, of Louisville, were elected delegates to the American Medical Association.

Dr. A. H. Barkley, of Lexington, Ky., had conferred upon him the degree of M. A. by the Trustees of the Transylvania University, Lexington.

Dr. David Morton and Mrs. Morton, of Louisville, have returned after a ten days' stay in New York City.

Dr. Brooks Willmont, of Lexington, spent several days as the guest of Dr. William Young in Louisville.

Dr. Harry C. Weber and Mrs. Weber, of Louisville, left for a visit to relatives in Memphis.

Dr. J. E. Seebold, of Shelbyville, has returned home after visiting relatives in Fern Creek.

Dr. Romeler and Mrs. Romeler, of Frankfort, are visiting Dr. J. Juett and Mrs. Juett in Eminence.

Dr. C. M. Fryer and Mrs. Fryer, of Louisville, are visiting their parents in Fern Creek.

Dr. O. P. Goodwin and family, of Pleasureville, visited in Bagdad.

Dr. Millard Irving, interne at the Marine Hospital in Evansville, visited his mother in Louisville.

MARRIAGES.

Dr. Holland B. Simpson, of Breeding, to Miss Hooker Alexander, of Burkesville, at Burkesville, September 28.

DEATHS.

Dr. J. H. Hearrin, died in Hawesville, October 1, aged 48 years.

Dr. Chas. D. Moore, died at his home in Cave Valley, Ky., September 26, aged 84 years.

Dr. Henry S. Smith, died at his home in Woodville, Ky., September 18, aged 92 years.

Dr. Richard N. Beauchamp, died in Russellville, Ky., October 10, aged 86 years.

Dr. Andrew J. O'Bannon, died in Elizaville, Ky., October 7, aged 69 years.

The Nurse's Opinion.

A nurse had been called as a witness to prove the correctness of the bill of a physician.

"Let us get at the facts in the case," said the lawyer, who was doing a cross-examining stunt. "Didn't the doctor make several visits after the patient was out of danger.

"No, sir," answered the nurse. "I considered the patient

Avoid multiple small incisions in palmar abscess, since they prevent proper drainage and may lead to stiffness of the hand. A single adequate incision is preferable for these reasons, and also because it affords a clear view of the site of disease, so that put pockets are much less likely to be overlooked.

Book Reviews.

The Practice of Medicine. A Guide to the Nature, Discrimination and Management of Diseases; By A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania; Professor of Medicine, University of Vermont. Octavo 945 pages, illustrated. Cloth, \$4.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

Dr. Kelly is thoroughly prepared for the writing of a work covering the modern practice of medicine. As a teacher he holds a distinguished professorship in the University of Pennsylvania, a position only won by many years of meritorious work, and he has enjoyed even longer experience as a general practitioner. Being chief pathologist to one of the foremost hospitals in America, he is thoroughly grounded in this fundamental science. His purpose in undertaking the great labor involved in writing a comprehensive book on present-day practice is to give the student and junior physician a guide to the nature, discrimination and management of disease, containing the essentials without excess of detail. He has devoted most space and attention to the practical aspects of medicine, to the elucidation of principles exemplified in disease at the bedside, in hospital wards and clinics and in the consulting room, and to symptomatology, diagnosis and treatment. These main objectives are presented in their natural connections by means of brief sections on etiology, essential anatomical lesions and pathological physiology. Such knowledge is essential to a correct understanding of morbid phenomena, to ability to forecast and provide against contingencies, to judgement as to the course, duration and termination of a disease, and to skill treatment and prophylaxis. Under each disease at least one method of treatment of known value is given, and formulae are presented as an aid to the junior practitioner in times of stress. The reader who masters the knowledge so rationally presented in this authoritative book should have no difficulty in passing his collegiate and State examinations and in proving himself a successful practitioner.

The Practical Medicine Series, under the General Editorial charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D., Volume IV. Gynecology, Edited by Emilus C. Dudley, A.B., M.D., Professor of Gynecology, Northwestern University Medical School, and C. von Bachellet, M.S., M.D., Assistant Professor of Obstetrics, Chicago Polyclinic and College of Physicians and Surgeons. Series 1910. The Year Book, Publishers, Chicago. Cloth. Pages 230. Illustrated. Price, \$1.25.

The series are issued at about monthly intervals and covers the entire field of medical and surgical progress. Each volume being complete for the year prior to its publication on the subject of which it treats. Although the publishers have intended the series for the general practitioner, the arrangement in volumes enables those interested in special subjects to buy only the parts devoted to their special line of work.

The volume is divided into six parts under which are treated General Gynecologic Principles; Infections and Allied Disorders; Malformations and Tumors; Traumatism; Displacements; and Disorders of Menstruation, including the subject of Sterility.

Like other volumes of the series, this one represents the gleanings of recent literature in its respective field, and gives to the busy specialist a resume of gynecologic advancement. In its 230 pages it contains about twenty-five plates.

A Manual of Hygiene and Sanitation; By Seneca Egbert, Dean and Professor of Hygiene in the Medico-Chirurgical College, Philadelphia. New (5th) edition, thoroughly revised. 12mo, 508 pages, with 97 illustrations. Cloth, \$2.25, net. Lea & Febiger, Philadelphia and New York, 1910.

The frequency with which successive editions of Professor Egbert's book are exhausted and new ones demanded places its value and standing beyond question. The author has responded to this renewed opportunity by effecting such changes as were needed to represent the latest developments in a very active subject. Mankind is awakening to the importance of anything affecting the public health, and it is now expected

that every physician shall know and apply the principles of preventive as well as curative medicine. An authoritative work covering the essentials of this great subject clearly and briefly, therefore, interests medical students and practitioners as well as specialists in hygiene and sanitation.

The author's frequent revising, keeping the work up-to-date accounts for the long continued popularity of this excellent work.

Hookworm Disease; By George Dock, A.M., M.D., Professor of Theory and Practice of Medicine, Medical Department, Tulane University of Louisiana, and Charles C. Bass, M.D., Instructor of Clinical Microscopy and Clinical Medicine of Louisiana. Pages 250, illustrated with forty-nine special engravings and colored plates. C. V. Mosby Company, Publishers, St. Louis, 1910.

In this new treatise the authors have presented a work incorporating the most advanced knowledge of a disease which is attracting present-day interest, particularly in the the South. In this infected region, where the physicians are keenly alive to the economic problem involved, this timely monograph will be well received and seriously consulted.

The history of Hookworm Disease is given, its distribution and economic importance considered, zoologic features of the worm described and the modes of infection discussed. The subsequent chapters are devoted to pathologic anatomy and pathology; symptomatology; diagnosis; prognosis, prophylaxis, and treatment. The illustrations are good and type clear.

The work is fittingly dedicated to Dr. Charles W. Stiles, of the United States Public Health and Marine Service, to whose investigations and work we are largely indebted for our present knowledge of the Hookworm Disease.

Anatomy, Descriptive and Applied; By Henry Gray, F. R. S., late Lecturer on Anatomy at St. George's Hospital, London. New (18th) edition thoroughly revised, by Edward Anthony Spitzka, M.D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octave, 1,496 pages, with 1,208 large and elaborate engravings. Price,

with illustration in colors, \$6.00, net; leather, \$7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The announcement of a new edition of Gray's Anatomy interests every one concerned with medicine, student and practitioner alike, for it deals with the only science entering into every medical question. Henry Gray was a two-fold genius, as he combined a thorough knowledge of human structure with equal insight as a teacher. Neither of these qualities singly could have produced a book in which matter and method were so perfectly welded into an ideal teaching instrument. Gray's inventive mind devised the scheme of engraving the names of the parts directly on them, so that the eye caught at a glance and photographed on the mind their nomenclature, position, extent and relations, the four cardinal points. His work marked an immense advance over its competitors, and sprang at once to the forefront, where it has remained ever since, more than a half-century.

This new edition, the eighteenth, is the most thorough of all revisions, every line having been scrutinized for possible improvement, anything in the nature of an obscurity being clarified, and whole passages rewritten. The changes have been so thoroughgoing that the book has been entirely reset in new type. The latest developments in this active science are included, so that this single volume gives a complete account of human structure according to the latest views. The Editor, Dr. E. A. Spitzka, is Professor of Anatomy in the Jefferson Medical College of Philadelphia, and one of the world's foremost anatomists. He is also a competent artist, and the drawings from his hand convey his own accurate knowledge directly to the mind of the student. Many of the former engravings have been replaced and more added, so that the series of illustrations is more abundant than ever before. This applies also to the use of colors. Nothing has been spared to maintain the reputation of the book as being the easiest from which to teach or to learn, and as facilitating to the utmost the acquisition and retention of a sound knowledge of its subject.

American Red Cross Abridged Text-Book on First Aid. Industrial Edition; By Major Charles Lynch, Medical Corps, United States Army, and First Lt. H. J. Shields, Medical Reserve Corps, U. S. Army. Prepared for and endorsed by the American Red Cross. Paper. Price, 30 cents. Publishers, Blakiston's Son & Co., Philadelphia, 1910.

This small manual is intended for the worker in the industrial field, and that it may be read by the majority of miners, it will also appear in Polish, Lithuanian, Italian, and Slovak. In order that it might reach the largest possible number the cost of publication has been kept down by every permissible economy. The edition gives only such facts as will be of value in first-aid instruction to industrial workers. It contains 175 pages and 49 illustrations.

ACKNOWLEDGMENTS.

International Clinics, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles; Edited by Henry W. Cattell, A.M., M.D., Vol. iii. Twentieth series, 1910. Cloth. Pages 311. J. B. Lippincott Company, Publishers, Philadelphia and London.

Diagnosis of syphilis; By George E. Malsbary, M.D., Professor of Medicine, Cincinnati Polyclinic and Post-Graduate School, Author of a "Text-Book on the Practice of Medicine," and Monographs on "Treatment of Tuberculosis," "The Rheumatisms," "The Septic Infections," "Meningitis," and "Cerebro-Spinal Meningitis" (in "Wood's Reference Handbook of the Medical Series"). Pages 422. Harvey Publishing Company, Cincinnati.

Obstetrical Nursing for Nurses and Students; By Henry Enos Tuley, A.M., M.D., Professor of Obstetrics, Medical Department University of Louisville; Visiting Obstetrician and Lecturer on Obstetrics to Training School for Nurses, John N. Norton Memorial Infirmary and Louisville City Hospital; Member Sloane Maternity Hospital Alumni; Ex-Secretary and Chairman Section on Diseases of Children, American Medical Association; Secretary Mississippi

Valley Medical Association, etc. With seventy-three illustrations. Second edition, revised and rewritten. John P. Merton & company, Publishers, Louisville, Ky., 1910. Price, \$1.50.

Dust and Its Dangers; By T. Mitchell Prudden, M.D., Author of "The Great American Plateau," etc. Second edition. Illustrated. Pages 113. G. P. Putnam's Sons, New York and London. The Knickerbocker Press, 1910. Cloth Price, 75 cents.

The Story of the Bacteria and Their Relations to Health and Disease, By T. Mitchell Prudden, M.D. Second edition. Revised and enlarged. Illustrated. Pages 232. G. P. Putnam's Sons, New York and London. The Knickerbocker Press, 1910. Cloth. Price, 75 cents.

The Taxonomic Value of the Microscopic Structure of the Stigmal Plates in the Tick Genus *Dermacentor*; By Ch. Wardell Stiles. Washington Government Printing Office, 1910. Illustrated.

Medical Education in the United States and Canada. A Report to The Carnegie Foundation for the Advancement of Teaching; By Abraham Flexner. Bulletin Number four, 1910. Pages 346.

Facts and Problems of Rabies; By A. M. Stimson. Pages 90. Illustrated. Washington Government Printing Office, 1910.

The Solubilities of the Pharmacopoeial Organic Acids and Their Salts; By Atherton Seidell. Pages 98. Washington Government Printing Office, 1910.

NOTE.

Rebman Company, 1123 Broadway, New York, have just issued a new descriptive catalogue of medical publications, together with an illustrated catalogue of art prints for the waiting room and home of the doctor. These will be sent by the publishers to any address upon application.

COMMITTEE REPORT ON THE DIVISION OF FEES.

To the House of Delegates of the Kentucky State Medical Association:

Gentlemen—The following facts are so generally conceded that they permit no discussion: The relation between patient and physician is one involving responsibilities and duties of such vital character that through all time it has been regarded sacred: that in no other calling is a more supreme and sacred trust imposed than that laid upon the physician.

The most valued asset of the profession is the faith and confidence which the people repose in the honor and integrity of its members; the people place the health and lives of themselves and their loved ones unreservedly in the hands of the physician. He is the trusted friend of the home and fireside. That such confidence is only exceptionally misplaced is the crowning glory of our profession.

The esteem and respect bestowed upon individual members and organized bodies of the profession in all civilized countries are commensurate with the standard of honor and duty established by the profession.

As a result of the tendencies of the age and the great advance in medical science, specialties have developed in medicine as in all other professions; that such divisions of labor have divided the profession into groups which have done incalculable good in advancing knowledge and improving medical practice; that the creation of specialties in medicine has made more important than ever the cordial and honorable co-operation of all members of the profession in the interest of humanity.

The various departments of medicine, including the specialties, are mutually dependent and must from the nature of things always work together in harmonious co-operation to do the greatest good for the people and to promote the highest and best interests of the profession.

The relations between the great body of the profession and the specialties have not been properly defined, and the condition is of such recent origin that time has not been sufficient to establish a permanent basis of equitable relationship.

There has grown out of these conditions a great evil which threatens to work injustice to the people and to fatally impair the respect and confidence imposed in the profession; instead of an open, frank and honorable adjustment of compensation, the physician and surgeon have in many places entered into a secret division of the surgeon's fee. In some instances the pretext is made of making a joint bill, or maybe the family physician is paid for "assistance" by the surgeon, or, as in most instances, the physician is given a good part of the fee paid by the patient to the surgeon without the patient's knowledge. Such a division of fees is in effect the payment of a commission, and is a system of trade totally unfit for adoption by an honorable profession. This pernicious practice is known to prevail to an extensive degree in Kentucky and can no longer be ignored by this Society.

This division of fees is in flagrant violation of all the tenets, traditions and principles of the medical profession. It could not be considered honorable dealing in trade. Its results are most pernicious. It destroys the standard of professional attainments as the essential of success. It elevates the unworthy and puts a premium upon double-dealings. It begets unnecessary operations and favors operation of doubtful indications.

Your committee believes that it should be made plain to the laity that the services of the family physician are of vital importance in all consultations; that it is important that he should unite in counsel for determining operation; that his association with the surgeon is in the patient's interest, and that he should be duly and properly compensated for those services.

Your committee would also recommend that this Society make known both to the medical profession and the laity throughout the State of Kentucky that the division of fees, paying of commissions, or any secret dealing by physicians and surgeons is unprofessional, unethical and dishonorable, and that no physician or surgeon guilty of this practice will, when proved, be retained in membership, or be admitted to this Society.

Respectfully submitted,

COMMITTEE.

CALENDER OF
LOUISVILLE MEDICAL SOCIETIES.

(FOR NOVEMBER.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton," November 7, 14, 21 and 28.

DR. E. S. ALLEN.....	President
DR. S. D. WETHERBY. {	Vice Presidents
DR. M. F. COOMES.... }	
DR. CURRAN POPE	Treasurer
DR. DUNNING S. WILSON.....	Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House No-
vember 1, 15 and 29.

DR. JOSEPH W. IRWIN.....	President
DR. ARGUS D. WILLMOTH.....	Treasurer
DR. H. J. FARBACH.....	Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House,
November 3.

DR. W. A. BOLLING.....	President
DR. C. B. SPALDING.....	Vice President
DR. RICHARD T. YOE.....	Treasurer
DR. W. O. GREEN.....	Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets
at the Tavern Club November 17.

DR. L. P. SPEARS.....	President
DR. GEORGE A. ROBERTSON.....	Vice President
DR. CHAS. W. HIBBITT.....	Treasurer
DR. EDWIN T. BRUCE.....	Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club;
November 14 and 18.

DR. J. GARLAND SHERRILL.....	President
DR. J. ROWAN MORRISON.....	Vice President
DR. FRANK C. SIMPSON...	Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn, Novem-
ber 8.

DR. I. A. ARNOLD.....	President
DR. H. L. READ.....	Vice President
DR. JOHN K. FREEMAN...	Secretary and Treasurer

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Danville,
Ky., November 17, 1910.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown,
Ky., December 8, 1910.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May
10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah,
Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Lexington,
Ky., January 12, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah,
Ky., 1911.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them, and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

Original Articles and Clinical Case Reports are Solicited.
Reprints may be obtained at cost, if request accompanies manuscript.

ADDRESS ALL COMMUNICATIONS TO
THE AMERICAN PRACTITIONER AND NEWS PUBLISHING CO.,
Suite 232 Atherton Building, LOUISVILLE, KY.

Subscription Price, \$1.00 Per Year, in Advance, Postpaid.

Vol. XLIV.

Louisville, Ky., December 1910

No. 12

Original Articles

ADENOCARCINOMA OF THE KIDNEY.

BY J. GARLAND SHERRILL, M. D.,
LOUISVILLE, KY.

In the earlier reports upon tumors of the kidney the writers are not at all clear in their nomenclature and it is evident that considerable confusion existed in their minds as to the character and origin of these growths. The term cancer then included sarcoma as well as carcinoma. We also find in use the terms scirrhus, encephaloid, colloid, etc., with but little reference to the histogenesis of the tumor structure. Even at present with out increasing knowledge of pathology, difficulty is found in properly classifying some of these growths owing to their cellular structure partaking strongly of the nature of carcinoma in one portion while in close proximity will be found a structure quite similar to sarcoma. There is also a class of

tumors in which the cellular elements are of such great variety that the growth cannot be properly placed in any of the usual groups, hence the term "mixed tumors" has been applied to this class. Under this head may be placed embryonal adenomyoehondro-sarcoma, teratomata, etc.

Adami (1) says that "while pure adenomas showing no tendency to reversion are found in the kidney in common with ovary and testes that in this organ are met a remarkable series of transitional tumors. Tumors in certain areas definitely of adenomatous type, in others formed of solid cell masses which are not truly adenomatous because, on employing Mallory's stain we find that here and there connective tissue fibres are present between the cells. These portions are of the nature of alveolar sarcoma and, on careful study we can make out the transition from the truly adenomatous to the alveolar sarcomatous areas. And from these latter areas we may pass to regions of purely sarcomatous type, round, or even blunt spindle celled. The picture is an extraordinary one, wholly at variance with the older views of the sanctity of sarcomatous and carcinomatous properties. Here absolutely without any manner of doubt a tumor shows transition from carcinomatous to sarcomatous characteristics. The condition has been regarded as inexplicable, has been labeled carcinoma sarcomatodes, or sarcoma-carcinomatodes, has been treated as ne'er-do-weel member of the family, and too often left out of account in general discussions upon the family relationships of neoplasms. Some have thought to dismiss these cases by ruling that the mesoblast cannot form true gland tissue and true adenomas or carcinomas; that wherever, as in the kidney, we obtain typical gland tubules these must be of epiblastic or hypoblastic origin; others have denied the transitions. But the fact is that such transition occurs, and is to be found in tumors of just these organs as, again, in the endothelioma."

The great variety shown by renal growths renders proper classification rather complicated—the histological division will serve our purpose:

- (1) Those derived from the mesoblast.
- (2) Those of epiblastic origin.
- (3) Those derived from adrenal rests.
- (4) And mixed tumors.

It is not the purpose of the writer to enter into a discussion of histological characteristics of the different groups of these growths. Since Grawitz described in 1883 tumor adrenalis aberrans or hypernephroma that type of tumor has received a large amount of attention from the profession. I have found, however, perhaps from its rarity, that adenocarcinoma has but rarely been mentioned.

From $\frac{1}{2}$ to 1 per cent. of carcinomata primarily affect the kidney. According to Kelynaek 2 to 3 per cent. is a fair proportion of malignant growth of the kidney to malignant disease of other parts. A number of cases are collected from the literature by the writer, two of which were congenital, and in one case a number of calculi were present (Denzinger).

Kelynaek's statistics on the frequency with which each kidney is affected is as follows:

44.07 per cent. affecting the right kidney.

45.76 per cent. affecting the left kidney.

10.18 per cent. affecting both.

Males seem to suffer almost twice as often as females.

Heredity seems to play no important part in the development of these growths.

We have no positive knowledge of the causative factors of the production of these tumors, but it is probable that a large proportion are of congenital origin, due to cell rests. A number of cases of injury of the kidney subsequently followed by carcinoma have been reported. Although the position of the kidney renders it especially free from traumatism, in a number of cases traumatism is reported as having caused the first hemorrhage, which called attention to the affection. Calculus has been claimed by some to be an important causative factor in the production of renal carcinoma, but the question yet remains sub judice.

Diagnosis—The diagnosis of renal tumors is by no means easy at the time at which surgical intervention offers some hope to the patient of a permanent cure. The symptoms which will attract the patient's attention to his condition are hematuria of an intermittent type occurring in some instances after an injury, but recurring without apparent cause. The blood is usually mixed well with the urine, but in some instances

clots are noted. The quantity of blood varies markedly, is more persistent in carcinoma than sarcoma, and also in adults than in children.

According to Imbert hematuria as a sign of renal neoplasm is more frequent in the adult and very exceptional in the child. He states that Guyon has found it as an early symptom 137 times in 257 observations, or 54 per cent., but it must not be regarded as a sign of beginning disease of the kidney, for, on the contrary, it is usually a late symptom according to the latter author's experience. He collected 357 cases in which the diagnosis had already been established. Of these 235, or 68 per cent., had bloody urine, and says it is most often seen in epithelioma and hypernephroma 75 per cent., whilst in adenoma and sarcoma it was present 45 per cent.

Enlargement of the kidney is the next sign of importance. Perceptible increase in the size of this gland was present in 255 cases out of 303, or 84 per cent. By placing the patient on the unaffected side Israel has been able to demonstrate small neoplasms the size of a hazelnut to that of a plum.

Pain—Often pain is not an important symptom and in some cases it appears as a dull, heavy, dragging sensation in the loin and side. In my own case the pain was never very severe—consisted more in a feeling of heaviness than actual suffering.

According to Johnson, "In the cases which do not bleed pain and discomfort in the back or loin are not constant or even very frequent symptoms. They occur in only 15 per cent. of Israel's cases, and he considers that the absence of pain can in no wise be regarded as a condition rendering the presence of tumor improbable. Chevalier, on the other hand, states that pain is an initial symptom among adults in 28 per cent., and among children in 7 per cent. of all cases. As the size of the tumor increases the disturbance of the general health, anemia and cachexia appear as time passes, and metastasis may be recognized later in the disease.

Changes in the character of the urine are sometimes entirely wanting and at others very striking. A large proportion of the cases will show hematuria, and albumen will ordinarily be found as the result of the presence of blood, unless there be some complication. Casts, crystalline elements and pus are usually wanting, their presence indicating a complication. Pus

may be found whenever there is an infection of any part of the urinary system.

Mention has been made by Guyon of the importance of varicocele as a symptom of renal tumor. He claims that the varicocele increases proportionately to the size of the tumor mass and the pressure upon the spermatic vessels. This symptom is more likely to be met on the left side. In a number of cases it has not occurred, and is unimportant as regards the early diagnosis of the condition.

In the early stages the enlargement will show considerable mobility and in most instances moves with the diaphragm in respiration, although some observers have denied this. As the growth advances beyond the limits of the kidney pressure symptoms will be noted and ascites will develop. Rarely will icterus be present, and when it occurs is an indication of the involvement of the tissues near the hilum of the liver. Elevation of temperature rarely occurs except in the later stages, when there is considerable tissue destruction. Cachexia and anemia occur as late symptoms.

The diagnosis of renal from non-renal growths is to be made by excluding affections of the other abdominal organs, as ovarian and uterine tumors, tumors of the intestine, gall-bladder, stomach and pancreas. With careful attention to the history of the case, urinary findings, and the abdominal examination, one should usually be able to make this differentiation.

The differentiation between renal tumors and other enlargements of the kidney is in many cases no simple matter, and sometimes it is impossible. Hydronephrosis will oftentimes give the history of bloody urine and a steadily increasing enlargement in the side. Usually the history will show evidence of the passage of crystals in the urine, which cause a suspicion of calculus and obstructed ureter. It may also result from the presence of a carcinoma of the uterus and adnexa with pressure upon the ureter. The same is true of prostatic enlargement. Again a marked mobility in the kidney may result in an intermittent hydronephrosis, which, however, will show a variation in size from time to time, and the diagnosis under these circumstances should be somewhat easy. While an exploratory puncture might afford conclusive evidence it should not be used where there is any suspicion of renal new growth, because of

the danger of the implantation of malignant tissue outside the diseased structure, and also because of the danger of hemorrhage, as noted in Brewer's case.

Pyonephrosis will give evidence of pus in the urine, unless the ureter be plugged, and the patient will give a history of elevated temperature, sweats, etc. Tuberculosis of the kidney can in the majority of cases be diagnosticated by catheterization of the ureter and microscopic tests for tubercle bacilli; this may be supplemented by inoculation of lower animals and also the tuberculin reaction.

Stone in the kidney presents so many symptoms in common with tumor that diagnosis between the two conditions becomes important. Crystalline elements, pus, and blood in the urine, the latter increased by motion and exertion, point strongly toward stone. Careful employment of the Roentgen ray ought to reveal the presence of stone.

Prognosis — The prognosis of renal carcinoma is always grave, although radical removal in its early stages will offer about as large a percentage of recoveries as carcinoma in any other part of the body. Prognosis becomes more grave with the increasing size of the tumor and with its fixation, the latter being an indication that there is a tendency for the new growth to break through the capsule of the kidney and attack surrounding structure. Metastasis is also an evidence of gravity, and if present is a contraindication to operation.

Primary mortality from nephrectomy for malignant growths has been reduced in the past twenty years from 60 per cent. to 23 per cent.

Permanent results after removal of kidney tumors are better than after the extirpation of stomach and rectal cancers. Israel reports a case of having lived for 14 years, and Kronlein reports a case of nephrectomy for adenocarcinoma in which the patient was perfectly well 18 years and 7 months after the operation.

The present mortality of nephrectomy for malignant disease is from 18 to 22 per cent., which should be reduced, in the opinion of the author, by early diagnosis and prompt intervention.

Treatment — The only hope of recovery offered the patient suffering from malignant disease of the kidney lies in early and complete nephrectomy. Partial nephrectomy has been practiced at least five times for malignant tumor, according to Morris, but in every case the surgeon thought he was dealing with benign tumors and the results were not encouraging. In advanced cases palliation is always to be offered to the patient.

Personal Case — M., aet., 28, was first seen September 23, 1909, with Dr. Bronner. This patient had a history of having had gonorrhoea four years before, and two years previously received an injury on a train. One year ago he had an attack of general abdominal pain, with some variation of pain along the urinary tract. About four months before I saw him he suffered from a fall, following which he had some considerable pain in the left side, and for five days there was quite an amount of blood in the urine. Later this symptom subsided, and reappeared again about two weeks ago following a sudden exertion. His urine showed pus cells, some blood cells, staphylococci and a few diplococci, but no tubercle bacilli.

Careful examination revealed enlargement of the right seminal vesicle and also the left kidney was palpable and apparently slightly enlarged as well as mobile.

Diagnosis—Traumatism, causing hemorrhage.

The patient returned on March 16, 1910, with a history of another attack of hematuria in December, 1909. Following this he was in fair health until March 1, when he developed an acute gonorrhea. Recently after lifting a log he began again to suffer from hematuria. He now has acute cystitis. His left kidney is large and tender and readily palpable, and gives an impression of increase in size since the last examination. The patient remained in the hospital until May 2, when there remained no evidence of the acute infection mentioned above. At this time an effort was made to examine the bladder and catheterize the ureter, but owing to the amount of irritation produced by the instrument upon the recently inflamed urethra we were unable to do this successfully. The skiagraph made by Dr. Edw. T. Bruce showed a faint shadow in the left kidney region, but not sufficient, Dr. Bruce thought, to resem-

ble stone, but did resemble another case in which tumor was found.

Repeated examinations were made for tubercle bacilli and all were negative. The urine at no time showed any crystalline elements. The diagnosis was not positively made, but we felt sure from the size of the kidney and the amount of hemorrhage, as well as the deterioration of the patient's health, that operative interference was necessary. The latter was deferred for some days, owing to a bronchitis with which the patient was attacked early in May.

Operation — On May 7, 1910, assisted by Dr. Bronner, through an oblique left lumbar incision nephrectomy was performed, resulting in recovery.

Upon incision through the kidney and growth, after its removal, the organ was found to be six inches in length by two and one-half inches by two inches, at the lower pole an irregularly rounded nodular mass was observed. A number of branching vessels were seen on the surface of the tumor. On palpation it was not so resistant as the other portion of the kidney, and a few whitish spots were seen. On section the kidney appeared slightly congested, with a tumor 3 inches in diameter at the lower pole, apparently encapsulated with infiltration into the parenchyma and also into the fat about the pelvis. Inside the capsule was a grayish-white mass of material a little firmer than thick cheese. The remaining portion of the kidney showed some congestion, but the tissue appeared to be almost normal except where the growth was infiltrated through what might be termed the capsule.

Following is the report of the pathological examination made by Dr. John E. Hays, to whom I wish to extend thanks for his assistance:

Microscopically the specimen presents two well defined areas. At the lower pole is seen what appears to be a large cavity filled with caseous matter, while above this is the kidney proper. The capsule of the kidney extends over and encloses the caseous mass, also seems to branch at the junction of this mass and the kidney, runs around the inner surface of the mass so as to give the appearance of complete encapsulation.

Blocks of tissue were taken from the junction of this mass and the kidney and from one of the nodules on the surface of the kidney. These were fixed in 4 per cent. formalin, hardened in alcohol, embedded in colloidin, sectioned and stained in hematoxylin and eosin.

On microscopical examination the kidney tissue is found to be undergoing parenchymatous and fatty degeneration, with small areas of hemorrhage and pigmentation. As the caseous mass is approached the renal tubules and malpighian bodies are atrophied and compressed, in fact the elements are condensed to such an extent as to give the appearance of a capsule separating this caseous mass from the kidney proper. There is some increase of connective tissue here, but it does not form a distinct continuous capsule. Between this pseudo-capsule and the caseous mass we come to some of the tumor tissue. This is formed of one or more layers of glandular epithelium arranged in atypical tubules. When cut transversely these tubules seemed to be lined with one or more layers of glandular epithelium. The cells are very irregular in size and shape, the protoplasm full of chromatin granules with nuclei which take the stain in varying amount, some staining deeply, others very lightly. These tubules cut longitudinally and obliquely present a very complicated picture. There is hardly a tube found that shows an even lumen bordered by a single layer of epithelium. Instead the lumen is narrow at one place and wider at another, and at other places we do not see any lumen at all, only a mass of epithelium cells. Where the tubules widen out into quite large spaces there are found papilli form projections into the lumen formed of a narrow band of connective tissue covered with one or more layers of epithelial cells. Beyond this zone we come to the caseous mass before mentioned. There is no structure of any kind found in this, only a mass of broken-down necrosed tissue. Whether it was once composed of tissue like that just described or normal renal tissue is a matter of conjecture. However, we do find some of this atypical glandular tissue in the outer covering of the mass. This might indicate that this necrosed mass might have been of the same structure at one time. Sections from the nodule on the body of the kidney show the same structure as detailed above, except that there are no areas of necrosis, and other fields are found presenting

an entirely different picture. We here find the blood vessels surrounded by many layers of cells. These cells have a clearer protoplasm of fewer granules than the epithelial cells of the rest of the growth; their nuclei are larger and contain distinct nucleoli. I take it that these cells are of connective tissue type and originate from the adventitious coat of the blood vessels. We have here a typical picture of what Zeigler calls a perithelioma, a variety of hemangio-sarcoma in which there is a proliferation of the outer layers of the wall of the blood vessels and their immediate surroundings, so that the vessel lumina are surrounded by more or less thick mantle of cells.

The location of the morbid growth, upon the surface and under the capsule, for the most part would lead one to think that we had to do with an hypernephroma. The microscopical findings do not bear out this view. The character of the cells in an hypernephroma is entirely different from those found in this growth. In the first, the cells are like those in the cortical portion of the adrenal gland—large cells with clear protoplasm and small nucleus arranged in columns on each side of a capillary network.

The preponderance of atypical tubular gland tissue; a rapid proliferation of cell elements with small development of connective tissue and a tendency of these epithelial cells to invade the renal tissue constrains me to make the diagnosis of adenocarcinoma.

The presence of the abnormal growth of cells around the blood-vessels, as noted above, does not negative this opinion. Zeigler expressly states that this condition may accompany other morbid growths in the kidneys, ovaries and testes.

A PLEA FOR THE OBSTETRICIAN.*

BY SIDNEY J. MEYERS, M.D.,
LOUISVILLE, KY.

Our title intimates that there is something radically wrong with the practical side of obstetrics—and there is. If so, there must be many good reasons and causes, as well as methods of betterment. To this latter I wish to call your attention.

*Read before the Society of Physicians and Surgeons

Medicine, in all its many branches, has made rapid strides, especially in the several years that the members of our Society have been in practice. Many of use have seen radical changes wrought by discoveries, especially in preventative medicine, in isolating causative factors, in locating pathological changes, and in the betterment of many diseases. These all belong to the scientific division. Again, we have seen the educational realm invaded, and the requirements advanced to keep pace with the scientific. With the many advances, we have learned that medicine, in its entirety, is too big for any one man, and the specialists to-day make up our majority. This latter condition is not new, but the evolution of the specialist has certainly occurred in our time. Instead of the general surgeon we have those who care for only certain areas, those who consider only certain maladies, and, even further, those who have practically thrown aside all save the surgery of one organ. Ophthalmology, otology and laryngology, while still closely allied, find many to-day who have separated this tripod, and an individuality has also resulted. The internist has kept abreast, and finds himself unable to care for the body as a whole, and do it well. So you have the many divisions of medicine.

I could further elaborate, but suffice it to say that this has happened for the good of both the profession and the laity. The profession has profited because specialists are able to give their undivided attention to certain branches, and by this attention are able to elaborate the many diagnostic methods in use, are better able to develop perfect technique, and are certainly capable of giving an authoritative opinion in cases that come within their dominion. They have also profited financially by being able to charge a better, but at the same time a legitimate, fee for knowledge, which, during the old regime, was not well paid for.

The laity, on the other hand, has been benefited because the opinion given and services rendered by specialists are, in the majority of instances, better than could have been expected of the old-time general practitioner.

What we have to say about the practice of obstetrics in this paper covers only the local aspect as we find it in our city. I know of no one man who has as yet limited himself

to the practice of this art. I know of no one man who has placed obstetrics in the dignified class to which it belongs. I know of no man here who assumes to charge a fee that would compare with the fees charged by others doing work of such a responsible character. Why is this? Primarily, obstetrical practice is looked upon a perfectly normal process in which doctors as a rule, are of not much moment. Have not we obstetricians divided out time and our talents with midwives? Is it not a fact that we are often asked for opinions and our opinions placed in the background to give place to the advice given by even some monthly nurses? I contradict the assertion that labor to-day is a perfectly normal process in our over-civilized women; it is distinctly pathologic. If this idea were generalized, it would reduce the mortality of child-birth immediately and immensely. If the process is pathological, as I claim it is, it will have greater dignity. If it is dignified, better medical minds will turn to it and better men will want to practice the art. The State will not allow midwives and medical students to assume the heavy responsibility of caring for a pathological function, and the standard of the practice of obstetrics will be raised.

Again the general practitioner is unwilling to yield anything to the obstetrician, because he claims that the practice of obstetrics is a stepping-stone to his family clientele. This may be correct and yet the obstetrician, if he is one in the true acceptance of the term, would not interfere with the internist.

Every one doing obstetrics knows how the work compares with that of any of the specialists. The latter are usually able to set their own time for their examinations and for their operations, but the obstetrician's time is set for him, which is to be expected, but in return he should be paid a reasonable fee for his work. Those of us who do much obstetrical work know how cheaply it is done, and the surgeon will receive more for an operation for ingrown toe-nail than we often do for the delivery and care of a woman. I consider that the responsibility in caring for a pregnant woman, and in delivering and maintaining the child for at least the first two weeks, is equal to or greater than, that assumed by any other individual in medicine.

Again, not only the doctor himself suffers, by the great amount of work, by his undignified position, and by the very small fee, but the laity suffer, because they are not, except in a very few instances, getting the best that they can, or as good as they should have. Many women apply to their physicians at the beginning of pregnancy and are allowed to care for themselves until the beginning of labor. With our knowledge of preventative medicine, this is nothing less than criminal. These cases should have care and attention during the whole term.

The technique in obstetrics has been neglected. If one needs a ennetage, a perineorrhapy, or even a thorough abdominal examination, they are subjected to some preliminary treatment, so as to make the outcome of these cases as favorable as possible. They are required to go to hospitals for preparation and for thorough asepsis, and yet the lying-in woman, in general, is delivered in her home without preparation, and oftentimes without ordinary cleanliness being observed. These men are always prepared for emergencies that might arise during operations, no matter how slight, and yet how many practitioners go into the lying-in chamber with hardly a hand-bag.

I might go on at great length, but I believe I have made the point that we need, should have, and could have men in our midst who would elevate the practice of obstetrics by specializing, and by bringing it up to the standard of other specialties, and thereby be able to be paid as they rightly should for their work and the responsibility they assume.

How are we going to accomplish this? The betterment of this condition must first be obtained through the education of the public. If men would not dismiss obstetrical cases with the statement that it is a perfectly normal condition, that you need no attention, and that your mothers bore children and had no trouble, to go home and when indications of labor come on send for the nurse, we would soon find that the patient would assume that she must have some one to share the responsibility with her.

Again, there are men to-day who would not dare to invade the many specialties because they feel unfitted for the work,

yet there are few men who will not, if pressure is brought to bear, accept an obstetrical case.

Another feature that should not be overlooked is the mixing of cases. No man has the right to engage in obstetrical practice if his surgical work necessitates contact with pus cases. Again, how can one treating scarlet fever or erysipelas be able to do justice to either the infectious disease, on the one hand, or the lying-in woman on the other.

In closing, I wish to state that this is not a personal plea, and must not be so construed, as I feel that it is a subject that appeals to all of us, and in which we have all erred.

Selected Articles

SOME NEGLECTED PRINCIPLES IN THE CAUSATION OF MENSTRUAL DISORDERS.

BY EMIL NOVAK, M.D.,
BALTIMORE, MD.

Perhaps the most conspicuous physiological phenomenon associated with the reproductive organs of the female is menstruation, and certainly the most important symptoms of disease of these organs are those involving some disturbance of this function. With perhaps a few exceptions, a study of the many possible variations of these symptoms will in itself seldom be more than merely suggestive. Much of contributory value, however, may often be learned by such an investigation, although a careful physical examination is, of course, usually indispensable in the establishment of a correct diagnosis. With pain and leukorrhea, the various disturbances of menstruation make up practically the entire array of local subjective symptoms of pelvic disease, but, like pain and leukorrhea, it must be borne in mind that, after all, they are only symptoms and not disease entities, and hence that any rational treatment of these symptoms must be directed toward a treatment or removal of the underlying cause.

In this brief paper it will not be my object to take up in a categorical manner the causes of all the various menstrual disturbances and their appropriate treatment, but merely to

select from this broad and fertile field for discussion a few interesting questions which have impressed me either by their innate importance or by the fact that they have not as yet received from the profession the attention which they seem to merit. In the consideration of the various pathological disturbances of menstruation it would seem that a clear conception of the normal physiology of the process is essential. Concerning this, however, there is still much that we do not know. While we are familiar with the periodicity of menstruation, we are still, in large measure, ignorant of the factors which regulate or disturb this periodicity; while we are cognizant of the fact that there are wide variations in the amount of flow in different women or perhaps of the same woman at different times, it is oftentimes difficult or impossible to explain these variations; and although we may speak learnedly of the causes of painful menstruation, how frequently do we meet with cases which impress us with the meagerness of our knowledge in this respect.

Commencing with our fundamental conception of normal menstruation, it seems to me, in the light of recent investigations upon this subject, that there are three factors to be considered in this physiology. 1. An underlying cause, as yet undetermined, to which is due the occurrence and periodicity of menstruation; 2. the characteristic vasomotor phenomena which affect the pelvic blood-vessels; 3. the histological modifications of the endometrium which correspond to the various phases of the menstrual cycle.

As to the underlying cause of the menstrual process, there have been many conjectures, and even now the matter is far from being definitely settled. Without going into detail, and avoiding at the present time any discussion of real or apparent exceptions, suffice it to say that the occurrence of menstruation seems in a general way to be dependent upon the presence of ovarian tissue. It was the custom in former days to explain the influence of the ovary in the causation of menstruation as being exerted through the medium of the nervous system, although, as far as I am aware, no satisfactory explanation has ever been given of the exact manner in which this nervous influence is exercised. That the nervous connections between

the uterus and the ovary are not essential to the occurrence of menstruation would seem to be indicated by such experiments as those of Knauer, Marshall and Jolly, and others, in which menstruation persisted even when the ovaries were removed and transplanted to a distant part of the body. Such facts as these lend much weight to the now widely-accepted belief that the activity of the ovary in this respect is dependent upon chemical rather than nervous influences. According to this idea the occurrence of menstruation depends upon an internal secretion, or, as Starling calls it, a hormone, produced by the ovary. The activity of this hormone is manifested most conspicuously by vasomotor phenomena affecting the pelvic blood-vessels and producing the pelvic hyperemia characteristic of the process. In the light of recent discoveries concerning the varied activities and interdependence of the organs which possess internal secretions it is scarcely probable that this is the only function of the ovarian hormone or hormones, but it is certainly the most prominent and the one most directly related with the menstrual process. Like other hormones, or chemical messengers, the hormone of the ovary is transported by the blood stream, and it is conceivable that its effect is produced either through the vasomotor center in the brain or, more probably, through the centers in the spinal cord. That the effect may not always be confined to the pelvic blood-vessels would seem to be indicated by the occasional occurrence of the phenomenon of vicarious menstruation, with its accompanying hyperemia affecting vascular areas perhaps far removed from the pelvis.

Whatever part of the nervous system is involved in the production of the menstrual phenomena, there are numerous clinical evidences that it is quite apt to reflect the general condition of the body as a whole, that it is bound up with greater or less intimacy with other parts of the nervous mechanism, and that it is quite likely to be readily affected by exogenous influences. It is a matter of common knowledge, for example, that amenorrhea occurs quite commonly as a symptom of such systemic conditions as anemia and tuberculosis. Within the past year I have observed two cases of incipient tuberculosis of the lungs in which the patients, both young women, neglected almost entirely the slight cough and other pulmonary

symptoms, and slight advice on account of the amenorrhea which had developed. In such cases as these the amenorrhea is presumably the result of an inhibitory effect of the tuberculous process upon the vasomotor centers through which the ovarian hormone produces the vascular phenomena of menstruation. That the effects of such diseases are not by any means specific may be inferred from the fact that in these very same affections menorrhagia is occasionally noted instead of amenorrhea, although in the cases of tuberclosis it must not be forgotten that the excessive menstruation may be due to a local tuberclosis involvement of the pelvic organs.

The effect of profound nervous influences upon the menstrual function is further illustrated by the frequent occurrence of amenorrhea, less comonly of menorrhagia, in connection with the various forms of insanity. This Krafft-Ebing explains as due to "disturbances of the vaso-motor innervation," and Church and Peterson as due to "profound changes in the general nervous system influencing the spinal centers for ovulation and menstruation." Furthermore, as Ehrenfest points out in his recent exhaustive paper upon the subject, even a slight or only temporary improvement in the mental condition of such a patient is often characterized by a rapid restoration of the menstrual function to normal, thus precluding the possibility of the disturbance having been due to any organic change in the uterus. This latter factor can also be excluded in the amenorrhea which occurs in unmarried women who have a fear of pregnancy or in married women who are very anxious to bear children.

Even more interesting and suggestive are the menstrual disturbances which are so frequently noted in connection with tumors of the brain, especially those in the region of the pituitary body. It seems to have been shown by Cushing and others that a frequent manifestation of diminished secretion of the hypophysis cerebri, more especially of its anterior lobe, is a dystrophy of the general organs, and, in women, the occurrence of amenorrhea. It is interesting to note that another prominent symptoms of the same condition is the development of adiposity—interesting because of the well-known frequency with which amenorrhea and obesity are associated clinically.

It is rather difficult to conceive that the condition of adiposity can be produced by the amenorrhea in itself, and so the question arises, is the amenorrhea the result of the obesity or are both the results of a common underlying cause? While this question, in the present state of our knowledge, cannot be definitely answered, such observations as those just mentioned make it seem highly probably that the pituitary hormone or hormones are directly or indirectly concerned in this association of symptoms. There is another fact which lends weight to this view. It is a well known fact that the menopause, especially when prematurely induced through surgical means, is often characterized by a considerable deposition of adipose tissue, ostensibly as a result of the withdrawal from the system of the ovarian hormone. The fact that a similar increase in weight is seen in connection with a disturbance of the hypophyseal function is highly suggestive of the close inter-relation existing between these two bodies. As yet the observations along this line have been confined almost entirely to cases of profound disease of the hypophysis, especially tumor formation, but it is only natural to suppose that many menstrual disturbances are the result of less severe disease of the gland, perhaps of only a functional disturbance which causes no intracranial symptoms whatsoever. The analogy with the pathologic physiology of the thyroid will readily suggest itself. Not only the pituitary body, but also a number of other organs which possess internal secretions are closely related with the functions of the generative organs, as has been shown in a previous paper, and it is by no means a fanciful assumption that many of the numerous cases of menstrual disturbance of unknown origin are to be explained by alterations in the functions of these related organs. The problems involved in this broad question, it seems to me, offer perhaps the most alluring and profitable field for work in the physiology of the female reproductive organs, and their gradual evolution and ultimate solution will draw back the obscuring veil from many matters concerning which we are as yet entirely ignorant.

As has been already stated, the vascular phenomena in the pelvis constitute perhaps the most prominent manifestation of the menstrual process. If the pelvic blood-vessels be already, as a result of inflammation or other cause, overfilled with blood,

the additional effect of the menstrual process is quite likely to produce a condition of extreme engorgement, with resulting menorrhage or metrorrhagia. Again, if the blood-vessels of the uterus be the seat of arterio-sclerotic disease, it seems quite possible that uterine hemorrhage may result, either on account of the inability of the diseased vessels to contract or on account of actual rupture—an "apoplexia uteri" comparable to apoplexia cerebri. Great stress has been laid upon this factor by Reinecke, Rees, Barlow, and others. As Shaw has pointed out, however, such sclerosed vessels are to be found also in women with perfectly normal menstruation, while no one has ever observed an actual rupture of such vessels which could account for the hemorrhage. While, therefore, it seems probable that in a certain number of cases uterine bleeding may be due to arteriosclerosis, too much stress should not be laid upon the etiological importance of this factor.

More promising seems to be the theory of Theilhaber, who attributes to the mesometrium an important rôle in the regulation of the pelvic circulation. It is a well-known fact that in many cases of menstrual disorder no pelvic lesion can be found, while curetting of the uterus yields a normal endometrium. Especially characteristic and especially perplexing is this in many instances of uterine hemorrhage, perhaps of an intractable nature. In view of this fact, it is not surprising that the attention of gynecologists is no longer confined to the endometrium alone, and that much study has of late been given to the influence of alterations in the other coats of the uterus in the production of uterine bleeding. According to Theilhaber, a large proportion of cases, especially of the preclimacteric variety, is due to what he speaks of as "insufficiencia uteri," meaning by this a relative insufficiency of the muscular tissue of the uterus as compared with the fibrous tissue. This condition, he believes, results in a stagnation of the uterine circulation, with the production of menorrhagia or metrorrhagia. A number of objections have been offered to the theory of Theilhaber, but there can be little doubt that it explains the occurrences of uterine bleeding in at least a limited number of cases.

Finally, we have left for our consideration the third factor in the production of menstrual disorders, i. e., changes in the

endometrium itself. In the microscopic diagnosis of lesions of the endometrium many erroneous conclusions will be arrived at unless one is thoroughly familiar with the normal histology of the uterine mucosa and especially with the physiological variations which it undergoes at different phases of the menstrual cycle. The study of this "menstrual histology" of the endometrium, so to speak, was up to very recent times in a condition of great imperfection. Within the past few years, however, an important contribution to our knowledge of the subject has been made by Hitschmann and Adler, who from the study of the uterine scrapings (from fifty-eight cases at different phases of the menstrual epoch were able to describe certain histological appearances characteristic of each stage. These observations Dr. W. S. Gardner and I have been able, in the main, to confirm as a result of the study of fifty cases along exactly the same lines, as was detailed in a paper presented before the Section on Obstetrics and Diseases of Women of the American Medical Association at the annual meeting of 1909.

Such studies show that at the height of the menstrual flow the mucosa diminishes in thickness, the glands pouring out their secretion and becoming straight and collapsed. After the period there begins a building-up progress involving the epithelium, glands, and stroma, so that by about the fifteenth day the glands, which exhibit the most characteristic changes, have become considerably larger and often somewhat tortuous and corkscrew-like in appearance. The most striking change, however, takes place about six or seven days before the onset of the next menstrual flow, being characterized by a rapid enlargement of the glands with an increase of their tortuousness, while the epithelium becomes swollen and the gland lumina filled with mucus. These gland changes are much more marked in the deeper portions of the mucosa than in the superficial, so that there is produced a differentiation into a superficial compact and a deep spongy layer, as in the case of young decidual tissue. The resemblance is further increased by the fact that the stromal cells also in many cases undergo decided modification, becoming larger and richer in protoplasm, so that in some cases they are with difficulty or not at all distinguishable from true decidual cells. The endometrium, there-

fore, presents a constantly changing histological picture, the entire menstrual cycle being from this standpoint, according to Hirschmann and Adler, divisible into four stages: post-menstrual, interval, premenstrual, and menstrual.

The importance of such studies to a proper conception of the physiology and pathology of menstruation is apparent. The great advances which have been made in pathologic anatomy in recent times have imbued gynecologists with the anatomic idea in explaining pelvic diseases and symptoms. After curetting the uterus, as is so frequently done for the cure or relief of the various menstrual disorders, especially uterine bleedings, earnest and sometimes far-fetched efforts are often made to find in the microscopic picture some explanation of the clinical symptoms. Many fancy and some fanciful pathological diagnoses are thus lamely propped up in a feeble effort to mask an ignorance which is not actually culpable unless so concealed. As has already been emphasized, there are many cases of menstrual disturbance in which no gross pelvic lesion exists and in which the endometrium may be found normal in every way. This fact, however, should not deter one from restoring to careful routine examination of the scrapings in every case of uterine curetting, for in no other way can one be certain that important causative conditions are not being overlooked. Especially true is this in cases of suspected carcinoma, as will be emphasized later.

In the light of our new knowledge concerning the "menstrual histology" of the endometrium, we now know that what was formerly diagnosed as glandular endometritis is in the vast majority of cases nothing more than the physiological gland change which occurs just before the menstrual flow. In the same way, the appearance which has often been described as interstitial endometritis we know now is frequently the normal appearance of the premenstrual endometrium in its superficial compact layer, while in cases in which in former years the diagnosis of pregnancy would have been made from the mere presence of decidual cells such a diagnosis would not now be ventured, knowing as we do that other influences than pregnancy may produce the overgrowth of the stromal cell which converts it into the so-called decidual cell. It must not

be inferred from what has been said that there is no such thing as a true endometritis, for of this there can be no doubt. But it cannot be too strongly emphasized that a diagnosis to this effect must be based upon the same criteria as a similar diagnosis in other tissues, i. e., hyperemia, leukocytic infiltration, and edema in acute inflammation, and small round-cell infiltration, possibly fibroblast formation, and, according to Hirschmann and Adler, the presence of plasma cells in chronic inflammation.

This leads us to the consideration of the questions of the value of curetting in the treatment of the various menstrual disorders, especially uterine bleeding. The causes of this latter condition are many and various, but from our standpoint they may be divided into those in which there is an actual structural alteration in the endometrium and those in which the endometrium is normal in its microscopic appearance. It is, of course, often difficult or impossible to say to which group a given case belongs until after the operation has been performed, and hence it has generally been accepted that curetting is a proper method of treatment in all those cases of intractable hemorrhage of "idiopathic" origin, i. e., those in which there is no discoverable cause. To this custom there would seem to be no valid objection. It is the practice of not a few gynecologists, however, to resort to this operation repeatedly in such cases, even though the removed endometrium shows no pathological change whatsoever, and it is with this method of treatment that issue may perhaps be taken. It seems very illogical to subject the uterus to repeated curetting when the microscopic examination shows the mucous membrane to be normal in every way. How irrational it would seem, in a case of vicarious nasal menstruation, for example, to scrape away—to repeatedly scrape away—the normal mucous membrane of the nose in an effort to cure the condition. And yet the comparison is by no means a far-fetched one. As to a really rational treatment for these cases of intractable uterine hemorrhage I shall not presume to offer any suggestions, and, indeed, it seems unreasonable to hope for much progress along this line until we learn more concerning the real cause or causes of such conditions.

Aside from inflammatory disease of the endometrium, there are of course, a number of other lesions which are more or less closely related with menstrual disorders of one form or another. It is easy, for example, to understand how a malignant growth may give rise to uterine bleeding, or how a uterine polyp may cause both bleeding and dysmenorrhea; nor is it difficult to understand that a marked displacement of the uterus may be associated with some form of menstrual disturbance. There are two conditions, however, both characterized by menstrual irregularities, which deserve especial emphasis on account of their gravity and the frequency with which they are overlooked. I refer to ectopic gestation and carcinoma of the uterus. Perhaps the most suggestive symptom of extrauterine pregnancy is a slight but persistent metrorrhagia, often succeeding a period of amenorrhea during which the patient considers herself pregnant. In perhaps the majority of cases the significance of this bleeding is not realized and a condition of the greatest gravity to the patient is thus overlooked until, perhaps, too late to save life. If not entirely overlooked the condition is quite likely to be mistaken for something else, most likely for incomplete abortion, and treated by curettage, a procedure which in such cases as these is associated with considerable danger.

In carcinoma of the uterus, again, it is some irregularity of menstruation, usually menorrhagia or metrorrhagia, which first directs the patient's attention to the possibility of some pelvic trouble, and if she be one of the fortunate minority who do not attribute such irregularities to the "change of life," it is these symptoms which lead her to seek medical advice. The vital importance of impressing upon womankind the danger of neglecting menstrual disturbances at or near the menopause, and the means through which such information may be disseminated, is one of the tasks before the profession to-day, and the vigor and intelligence with which the problem has already been attacked is sure to be reflected ere long in a marked lessening of the mortality from this source.

From this imperfect, and, I fear, somewhat disconnected survey of some aspects of the etiology of menstrual disorders it would seem easier to deduce a general principle than to draw

any sharply defined conclusions. It may, therefore, in conclusion be emphasized that in the treatment of menstrual disorders an effort should always be made to ascertain the cause of the disturbance, and, in searching for this cause, due regard must be paid to perversion of physiological function as well as to alteration of anatomic structure of the reproductive organs. The present period of surgery has been spoken of as the physiologic era, to distinguish it from the preceding anatomic era, during which, probably as a result of the high degree of development of the science of pathologic anatomy, the explanation for most ailments was sought in tissue alterations, detectable with or without the microscope. Happily, surgeons are now awake to the fact that a proper knowledge of pathologic physiology is just as important a requisite in diagnosis and treatment as is a familiarity with pathologic anatomy, and it is remarkable what hidden truths have been unearthed by the sedulous search of the modern surgeon in physiologic domains. After the fashion of the alchemist of old, the abstract physiological truth, by contract with the practical need of surgery, has been converted into the precious material of which surgical progress is made. In no branch of surgery are there to be found greater possibilities for advance along physiological lines than in gynecology, and it is to such advances in gynecology physiology that we must look for an explanation of the now unknown causation of many disorders of the menstrual function.—*Am. Jour. of Obstetrics.*

CRITICAL OBSERVATION ON THE EHRLICH-HATA TREATMENT.

The laity are demanding treatment for all forms and stages of syphilis as a result of the newspaper notoriety of the treatment, but the physician must apply it only upon strictest indication, viz., cases of severe type, especially those refractory to mercurials; cases with mercurial intolerance; cases which relapse after or during mercury cure; incipient cases, before the roseola appears, and cases never treated with mercurials, etc. The arsenobenzol remedy may be used in combination with other specific treatment in suitable cases. Finally, the use of the remedy in parasyphilis must be made a matter of careful experiment.—*Berliner klinische Wochenschrift.*

Society Proceedings.

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo.

(Continued from page 544.)

"SKIN MANIFESTATIONS OF AMEBIASIS."

By Jno. L. Jelks, M. D., of Memphis, Tenn.

The author had observed cutaneous affections among a number of persons suffering with chronic Amebic infection. In April, 1909, he reported cases before the annual meeting of the Desoto County Mississippi Medical Society. In May, 1909, he made similar allusions to these conditions before the annual meeting of the Arkansas State Medical Society. Again in April, of the present year, at the Tennessee State Society in a paper, "Amebiasis, complicated in one instance by Pellagra, in another, by eighteen Adenomata," he referred to these associated conditions.

In one case, observed two years ago, with very chronic Amebic infection and ulceration, the patient had for more than forty years observed that the skin lesions, which were erythematous and macular, and at times edematous, depended very greatly upon the condition of the bowel at that time. This patient was returned to her family physician as incurable owing to the scarred, distorted and stenosed condition of the bowel. She has since died, apparently from exhaustion produced by a most extensive desquamative dermatitis.

Another case, which was observed in the winter of 1895-1909, of chronic Amebic ulceration, with liver abscess complicating, presented extensive macular, papular and pustular skin lesions which quickly cleared up under treatment, which was directed solely to the intestinal infection and ulceration.

Recently a case was presented, which had been diagnosed by several able physicians and skin specialists as one of Pellagra. The case presented all symptoms of Amebic infection, which preceded the skin lesions, and the author found the Ent-Ameba *Hystolitica* in the Mucopurulent material taken from the rectum, and concluded that the condition known as

Pellagra may have its solution as to etiology when systematic examinations are made for parasitic infections and intestinal conditions.

The author expressed the belief that those may help explain the prevalence of the condition known as Pellagra in the South. A report of six cases were presented in support of his views and he emphasized the singular co-incidental, if not consequential, skin lesions in so many chronic amebic cases which have been observed by him and which responded to treatment directed solely to the intestinal infection and ulceration. He quotes other authority both in this and other countries which are supportive of his views.

"INCONTINENCE FOLLOWING RECTAL OPERATIONS."

By Geo. Evans, M. D. of Dayton, Ohio.

We understand the external sphincter to be a flat plane of muscular fibers, elliptical in shape, and intimately adherent to the integument and jointing with the peronei, levator ani and accelerator urinae. It is a voluntary muscle and supplied by a branch of the fourth sacral nerve.

The internal sphincter is but a muscular ring, half an inch in breadth, in thickness two lines, and but an aggregation of the involuntary circular fibers of the intestine. Evidently the only true sphincter ani is the external—the internal sphincter ani is not subject to violation—and its sphincteric influence must be largely due to the support afforded it by the practically amalgamated muscles which form the floor of the pelvis and whose main function is the support of the hollow viscera of the pelvic cavity. Would it, therefore, be illogical, to believe that the internal sphincter is not, neither can it be made by any surgical procedure an efficient voluntary constrictor? Certainly, it is true that efficient and satisfactory sphincteric function is dependent on normal support of the bowel by a normal muscular floor, with a normal interdependent power of sphincter muscles, hence any trauma which interferes with muscular function disables proportionately to the extent of the injury.

That incontinence does follow division of the external sphincter, that incontinence does follow division of the internal

sphincter, is not denied and when their division becomes a necessity the best way, if there is one, of making the incision should be chosen. Can we hope that ere long there will be a method of cure for fistula-in-ano that will exclude even the possibility of incontinence?

Considering the anatomical conformation of the preinæm, the mutual dependence of perfect function, I would admonish those engaged in rectal surgery to not forget that indifferent and multiple injuries (even surgical injuries) should not be indulged in, for fear of a result that would prove more painful and mendurable than the condition which indicated operative interference.

We believe that incontinence can be obviated by relieving the tension of the fibers of the levator ani muscle at their attachment to the external sphincter, or both the external and the internal sphincter by nicking the fibers of said muscles on either side of the fistulous tract, and thus permitting an incision of the muscles on either side of the fistulous tract, and thus permitting an incision of the muscle at right angles to the same.

"MULTIPLE ADENOMATA."

By Geo. W. Combs, M. D., of Indianapolis, Ind.

An adenoma is the result of an increase in number and a crowding together of elongated and enlarged secreting follicles. It is an exaggeration of epithelial cells. This epithelium is prone to penetrate the basement membrane. When it does so and reaches the muscularis and other sub-mucous tissues it is malignant. Irritation causes the transformation from the benign to the malignant. This irritation may be through the normal function of the bowel, that caused by parasites, or as a result of surgical removal singly. Surgical disturbance in situ of a benign adenoma, a widening experience shows, will be followed by malignancy.

A case was reported in which occurred the malignant degeneration without surgical interference. This does not necessarily show an inherent tendency of adenomata to malignancy, but the adenomata, through the factor of irritation, predisposes the patient to cancer. In the case to which reference

is made above, one or more of the adenomata low down in the rectum had undergone the malignant transformation. On account of the extent of involment and the extreme exhaustion of the patient, extirpation of carcinoma was deemed inadvisable, but a left colostomy was made reaching a portion of the sigmoid above the growth limit. The tenesmus and diarrhea were at once relieved and the patient made comfortable until the carcinoma reached the cutaneous margin. Through the colostomy lavage was administered, the solutions being normal salt, boracic acid and sodium salicylate. The adenomata between the colostomy wound and the carcinoma, through functional rest of the bowel and cleanliness, disappeared.

If degeneration has not taken place a colostomy right or left, high enough to get above the growth limit, is advised and through this soothing and cleansing solutions used, rather than the removal of the whole bowel promixalward above the high limit of growth. The latter is a very serious operation for the strong and one in which the mortality will necessarily run high in these patients, as they present themselves usually late in the disease.

After malignant transformation has taken place, it would seem useless to remove the malignant portion unless the entire bowel involved may be removed at the same time.

LANE'S CONCEPTION OF CHRONIC CONSTIPATION AND ITS MANAGEMENT."

By A. B. Cooke, M. D., Nashville, Tenn.

In his monograph entitled "The Operative Treatment of Chronic Constipation," Mr. Lane first defines the scope of the treatise by stating that the term, chronic constipation, as he employs it includes all those conditions which are 'the consequences of the accumulation of material in the intestinal tract for a period sufficiently in excess of the normal to produce on the one hand alteration in the gastro-intestinal tract and in other viscera, and on the other hand toxic changes from absorption.' The fact is emphasized that while constipation is usually marked by infrequent hard stools, there may be a daily evacuation, and in exceptional cases the motion are loose and frequent.

The two chief pathologic factors in the production of chronic constipation, according to the author, are enteroptosis and acquired mesenteries or adhesions, the latter resulting not from inflammation, but being developed to oppose the displacement of viscera, the tendency to which exists whenever the erect posture of the trunk is assumed. The displacement and fixation of the several portions of the colon in faulty positions result primarily in defective drainage, and secondarily in auto-intoxication and pathologic changes both in the gut itself and in the other abdominal viscera.

After describing these changes in detail, the author proceeds to discuss their immediate and remote effects, advancing the idea that in many cases diseases of the appendix, gall-bladder, stomach, duodenum, pancreas, kidneys, ovaries, etc., must be regarded as sequellae of chronic constipation. In addition the phenomena resulting from toxic absorption are graphically described and the importance of their recognition stressed.

With reference to treatment Lane states that "in ~~on~~ circumstances should operative interference be contemplated till the surgeon has satisfied himself that every means of treatment has failed, whether medical or mechanical." The surgery indicated depends upon the conditions present. In mild cases in which non-operative measures have failed, division of the adhesions and constricting bands may be effective. Severe cases call for more radical surgery consisting either in dividing the ileum and anastomosing it with sigmoid or upper rectum, thus short-circuiting the fecal current, or, when pain is a prominent factor in the case, removal of the colon in addition.

The writer of the paper, after personal observation of Lane's work, regards his conception of the nature and management of the malady with much favor and thinks it entitled to serious consideration at the hands of the profession.

"Significance of Rectal Hemorrhage."

By Louis J. Krouse, M. D. of Cincinnati, Ohio.

Who called the attention of the profession to the importance of making a more careful examination of every case where there is bleeding from the rectum. He stated that rectal hemorrhage must not be considered conclusive of the existence of piles.

Many other diseases besides piles are accompanied with bleeding. He laid great stress on the importance of diagnosing malignancy in its early stage so as to give the patient a better chance of recovery. Many cases of malignant disease of the rectum, whose only symptom is hemorrhage have been overlooked and the patient sacrificed which would not have occurred had the family physician insisted upon a local examination thereby diagnosing the disease in its incipency before it had gone beyond the operable stage. He further stated that every patient is entitled to a thorough examination; and physicians are in duty bound to use all the means at their command to accomplish it. As Murray very aptly expressed himself, "Thus a case that to-day would be operable and a cure result, if diagnosed, would be inoperable in six months or a year and death result." The author reported numerous cases where a correct diagnosis had not been made on account of the negligence of the family physician. Some had been operated upon upon bleeding piles which subsequently turned out to be cancer. He concluded his article with the statement "that earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it therefore, behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage."

COLD DOUCHES TO THE NECK IN RHINITIS.

Muck observed when cold water is poured or douched in the back of the neck that a stopped-up nose becomes "permeable" to the air. The blood vessels of the nasal mucous membrane are reflexly contracted. The author therefore employs cold douches to the back of the neck in rhinitis. In acute inflammations of the mucosa, especially in coryza, one can by this means remedy the stopped up condition of the nose and thus allow the escape of the secretions. The author further believes that owing to the proximity of the vasomotor and respiratory centers in the medulla these douches also act beneficially in bronchial asthma, especially of nasal origin.—*Med. Woehenschrift.*

Recent Progress in Medical Science.

SOME OF THE OPEN QUESTIONS IN TUBERCULOSIS.

Thomas E. Satterwaite, New York (Medical Record, September 3, 1910), shows that a knowledge of tuberculosis was possessed in the time of Hippocrates, who gave very sensible directions for its treatment by fresh air, outdoor exercise, and rest. What Koch gave to us was the actual knowledge of the bacillary cause which enabled us to begin the direct fight against tuberculosis. To cure tuberculosis there are two important things to be done, treat the case efficiently while it is a closed case, without ulceration, and isolate the open, advanced cases so that they will not infect others. If the laity are to help us they must better comprehend the problem of sensible treatment of these cases. While tuberculosis is communicated by contact it is not contagious in the same degree as the exanthemata, syphilis, and gonorrhea. It is only communicable under favorable circumstances. Fully 50 per cent. of the adults contract the disease at some time during life and are cured. It is contracted in various ways; to determine the ratio of the different methods of infection is very important. Many of the problems of tuberculosis are complex. There is a humanitarian side to the question; measures of prevention must not entail unnecessary hardship on the sick man, lest the success of the movement be retarded. We have reached a point where it is of importance for the National Government to create a Board of Health for the handling of this important work all over the country with uniformity of effort. It has become an interstate matter and can only be dealt with as a national matter.

SOME REMARKS ON THE TREATMENT OF PELLAGRA

Geo. M. Niles, Atlanta, Ga. (Medical Record, September 30, 1910), thinks that we should not be pessimistic about the treatment of pellagra in view of the large number of cases that are being found in America. He thinks that it is of importance to prevent the use of any foods containing corn in

any form. We should then make use of arsenic, since it has been shown to be an antidote to the toxins of spoiled maize. The types benefited by arsenic are those with marked marasmus, incipient paresis, stiphobia, vague mania, and cases in the aged. It is useless in mental aberrations of some years' standing, systematized delusions, tuberculosis, albuminuria, and severe vertigo. The skin lesions may be relieved by bland ointments, avoidance of the sun, and the intense burning by mild bichloride solution, cold applications, and mercury. The author sounds an optimistic note regarding the therapeutic outlook for pellagra. In the last four months he has lost one case, five have been cured, and five are doing well.

THE NOGUCHI-WASSERMANN TEST OF SYPHILIS.

The results of the examination of 410 sera by Noguchi's modification of the Wassermann test are reported by J. S. Waugh, Chicago (Journal A. M. A., September 3), who describes the technic of the method in detail and gives tabulated statements of his cases. They show, he says, in a large percentage of cases, that 2 or 3 years of treatment, even when continuous, is not sufficient to eradicate the disease. There seems to be no doubt that some focus of infection may be latent in a great many cases, walled off by connective tissue of syphilis a positive result is an indication that the disease is still there and that more treatment is necessary. One negative result should not suffice in any suspected case. The test should be repeated at intervals of 6 months for the first year, after all treatment is discontinued, and afterward at longer intervals. In quite a large percentage of cases a period to 2 years of specific treatment is not sufficient to ensure a negative result from the serum test. The tendency at the present time is to give insufficient treatment rather than to overdo it. The serum test is of inestimable value in obscure cases of syphilis and in differential diagnosis.

ULCER AND CANCER.

L. B. Wilson and B. C. Willis, Rochester, Minn. (Journal A. M. A., September 10), find as a result of their studies, that

in the alimentary canal, whatever the essential irritant may be, micro-organism, ferment, or what not, the fact remains that in a very high percentage of cases there is microscopic evidence backing up clinical evidence that the carcinomata develop on epithelial cells, which have been previously isolated from their normal surroundings, either by the formation of diverticula, or being cut off by scar tissue in ulcer bases. Evidences of previous isolation were found in 30 per cent. of cancers of the lip, 67 per cent. of gastric cancer, 33 per cent. of gall-bladder, and 100 per cent. of cases of cancer of the appendix, in 10 per cent. of cases of cancer of cecum, in 40 per cent. of colon cancers, and 31 per cent. of cancer of rectum. The clinical bearing of this is the importance of the recognition and cure of all diseases that isolate epithelium. Chronic ulcers of the mouth and stomach should have the most minute attention. The obliterating appendix should invariably be removed, and diverticula in any portion of the intestine should be treated by complete removal rather than by drainage of the abscesses that may be formed about their ends. The conclusions of their paper are given as follows: "1. The relationship to cancer of simple chronic irritation of the unbroken free surface of the mucosa of the alimentary canal, as indicated by clinical data, is not readily demonstrable pathologically. 2. Scar tissue at the bases of ulcers and obliterations of the lumen of appendices and diverticula segregate portions of mucous epithelium from the neighboring epithelium and from the lumen of the alimentary canal. 3. These portions of segregated mucous epithelium tend (a) to degenerate from pressure and diminished blood-supply, and infiltrate the surrounding tissues, thus forming cancer. 4. These islands of segregated epithelium should be probably regarded as points of least resistance only, and requiring the presence of other factors for the production of carcinomata."

PLASTIC PELVIC SURGERY.

H. O. Marey, Boston (*Journal A. M. A.*, September 10), brings up the subject of the plastic surgery of the pelvic structures, incited thereto by the disappointing results of many surgeons in various parts of the country. He cites cases illustrating

this fact which have impelled him to call the attention of the profession again to what he considers to be a common fault in technique. The basic principles of the operation of plastic surgery of the pelvic organs are too often overlooked or misunderstood. A simple definition of the term plastic repair of the pelvic structures would be to restore them to their normal anatomic relations. The transversi muscules interdigitating and blending with the great levator group, with the associated fascia, are the recognized supports of the pelvic floor. Their juxtaposition forms the much discussed perineal body. To reunite and restore these structures is the object to be sought, and to do this they must be anatomically exposed. They must be retained in juxtaposition under aseptic conditions and then reunion or restoration necessarily follows. As he has long insisted, the dissection should be made by a free separation of about the posterior third of the vagina, quite to the crest of the rectocele and sufficiently wide laterally to expose freely the torn retracted structures. Unless the dissection is wide and complete, it is very difficult and often impossible to obtain free access to the parts. Marcy describes his technique in the repair of the pelvic floor in the operation for vesicovaginal fistula, hernia of the bladder and hemorrhoids. In the former he widely dissects the bladder from the vaginal wall and closes the bladder wound by a fine double tendon suture, which, of course, becomes buried. He then closes the vaginal wound, as in the operation described for cystocele. In every patient thus operated on he has had complete and seemingly easy cure. In hernia of the bladder he thinks it generally wise to remove a certain amount of the anterior vaginal wall and then make a lateral dissection sufficiently free to expose the strong pelvic fascia and intrafold it by a carefully applied medium-sized double tendon suture. In the technique of hemorrhoidal operations he considers the most important contributions are those of Mr. Whitehead, now described in all text-books. He describes his own modification of the operation consisting of a free dissection exposing the outer ring of the sphincter and suturing the hemorrhoidal plexus of vessels just within its borders. This line of sutures is covered and buried by a careful rejoining with the finest of sutures. Suturing at the base

before division occludes the vessels and prevents hemorrhage and the delicate structures carefully coapted and retained in an aseptic state unite primarily. When the sphincter has been paralyzed by careful dilatation these tissues are easily kept at rest and suffering is largely avoided.

ASTHMA AND THE LUNG REFLEXES OF ABRAMS.

Albert Abrams, San Francisco (Med. Rec., Nov. 5, 1910), refers to the lung reflexes (of dilation and of contraction) described by him and notes their significance in relation to the diagnosis and treatment of asthma. If one accepts the prevailing opinion that asthma consists essentially of a spasmodic constriction of the bronchioles then an appropriate dose of atropine, which paralyzes the bronchial musculature must invariably inhibit an asthmatic paroxysm. But all asthmatic paroxysms do not yield to atropine, hence bronchospasm is not the invariable concomitant of asthma; there may rather be a condition of hyperemia and swelling analogous to urticaria. When the lung reflex of contraction cannot be elicited the asthma is due to defective musculature, and atropine therefore is not indicated. Adrenalin chloride is also one of the most efficacious remedies for asthma; it evokes the lung reflex of contraction which permits the longitudinal fibers of the bronchial musculature to expel the residual air imprisoned by the contracted circular fibers. It is, of course, irrational to combine atropine and adrenalin in the same prescription.

EARLY RISING AFTER LAPAROTOMY.

E. A. Bjorkenheim (Gyn. Rund., Fourth year, Part 14, 1910) gives the results of early sitting up and rising after laparotomy. During a year at the hospital at Helsingfors, Finland, 157 laparotomies were performed, out of which 131 cases sat up early. The result of this treatment is an early restoration to the usual health and strength of the patient, normal action of the bowels and bladder, with its lessened danger of cystitis and ileus, freer respiration, fewer cases of pneumonia and bronchitis, and the prevention of formation

of thrombi in the pelvic and leg veins. If the patient is allowed to sit up on the second day to empty her bowels she will not require injections and drugs to move them, nor will it be necessary to catheterize the bladder. It will obviate the formation of gas in the intestines that is so unpleasant a symptom of the days after the operation. It is especially necessary to allow fat, weak patients to sit up soon, that the respiration may be better maintained and the danger of pneumonia be lessened. It also gives the patient a feeling of strength and well being that is in contrast with the weak, listless patients that we used to see after three or four weeks in bed. If the laparotomy wound is carefully sutured, there is no contraindication to early sitting up. The day for the first sitting up is not rigidly prescribed. It is left to the feelings and the condition of the patient to decide it. She is allowed to move about and to turn on her side on the first day. She is told that when she wishes she may sit up. A double elastic band is placed about the abdomen and she sits up for fifteen to twenty minutes the first time with a pillow behind her back. From this time she is not catheterized but told that she must pass her urine herself. She is given regular diet if she has no vomiting. On the third or fourth day she sits in a chair for twenty minutes, on the following day for one or two hours. A week after the operation she is allowed to walk about the room. Contraindications are fever, pus formation in the wound, and disturbances of the pelvic circulation.—*Am. Jour. of Obstet.*

“As to the humors of medicine,” said Dr. Ben Trovato reminiscently, “there is an old story about a woman who had an abdominal tumor which was found to weigh over eighty pounds after its removal, while the patient herself scaled only some sixty-four pounds. When she was recovering from the anaesthetic she is said to have remarked faintly to the surgeon that she might die happy if she was sure that he would save the growth. This is as remarkable an instance of wit and tumor in our professional archives as I can recall at the moment.”

Practical Cleanings.

A psoas abscess occasionally points in the outer part of the groin (i. e., close to the anterior spine of the ilium). When there is no evident spinal deformity to suggest the diagnosis the swelling is apt to be mistaken for a growth.

Deforming cicatrices of the face following burns are best completely removed and the space filled in by skin grafting.

The filiform bougie is not used to good advantage if employed after the passage of a sound or large instrument, as splits of the mucous membrane are produced into which the filiform finds its way. It should be the first instrument employed.

When you succeed in passing the catheter into the bladder in cases of considerable retention do not empty it entirely or too suddenly, as it may give rise to hemorrhage, which is sometimes very profuse, or to severe cystitis, or even urinary suppression and death. It is well to partially plug the lumen of the catheter so as to allow the urine to dribble out.

Chronic ulcers of the face situated in the area between lines drawn from the outer end of the eyebrow and the upper border of the ear above, and the angle of the mouth and the lobe of the ear below, are usually epitheliomata of the basal-celled variety and they are comparatively non-malignant.

When attempting to loosen with a hook a foreign body almost or quite obstructing the auditory canal the passage of the instrument along the antero-inferior aspect of the canal involves the least risk to the drum membrane.

A uniform enlargement of one buttock, developing spontaneously and not of subcutaneous origin, is probably due to a subgluteal lipoma. Here, too, however, a hydroma must be thought of.

News Items.

The vote on the proposition to issue \$1,000,000 new city bonds for the construction of a new city hospital for Louisville was overwhelmingly in favor of the proposition, the figures being 11,408 for and 3,897 against.

The decision in the case of the Hospital College of Medicine against Dr. H. A. Davidson, of Louisville, was on November 25th reversed by the Court of Appeals. Dr. Davidson won his suit in the Jefferson Circuit Court, but by the recent decision of the higher court, it is said, he will not be relieved of his obligations arising out of his contract with the Hospital College of Medicine, whereby he executed five promissory notes aggregating to \$3,000.

The Eastern Kentucky Medical Association held its annual meeting in Winchester, November 16, and selected Richmond as the place of next meeting. The following officers were elected: President, Dr. J. H. Schultz, Jeffersontown; Vice President, Dr. John P. Huff, Plummer's Landing; Secretary, Dr. Thomas A. E. Evans, Farmers, and Treasurer, Dr. William M. Price, Dabney.

The Jefferson County Medical Society has postponed its regular meeting of December 26 to January 2, 1911, when the annual election of officers will take place.

Dr. Ap Morgan Vance has gone to New York; he will inspect the new hospital at Albany for the Hospital Commission.

Dr. John Todd was elected health officer of Newport, Ky.

Dr. Arthur T. McCormack, of Bowling Green, Ky., attended the clinical meeting of the Surgeons of North America held in Chicago.

The Hardin County Medical Society held its annual meeting in Elizabethtown, November 10, and elected the following officers: President, Dr. D. Elmo McClure, Sonora; Vice President, Dr. John R. Cowherd, Vine Grove; Secretary, Dr. John M. English, Elizabethtown, and delegate to the State Medical Association, Dr. James C. Mobley, Elizabethtown.

Dr. U. V. Williams, of Frankfort, celebrated the seventy-seventh anniversary of his birth November 7; Dr. Williams has been in active practice of his profession fifty-six years.

The Louisville Clinical Society at its last meeting, November 29, elected the following officers: Dr. J. A. Flexner, President; Dr. George B. Jenkins, Vice President, and re-elected Dr. H. J. Farbach, Secretary, and Dr. A. D. Willmoth, Treasurer. A banquet was given the members at the Pendennis Club by the retiring President, Dr. Joseph W. Irwin.

Dr. J. W. Turner and Mrs. Turner have returned to Mt. Washington after a visit to relatives in Enterprise, Va.

Dr. Thomas G. Dunlap and Mrs. Dunlap, of Atlantic City, visited Mr. and Mrs. John L. Dunlap in Louisville.

Dr. Garnett Smith, of Eminence, is visiting his father, Dr. W. S. Smith, in Anchorage.

Dr. John H. Ward and Mrs. Ward, of Louisville, have returned from Chicago, where they have been on their wedding trip.

Dr. Sarah Richardson, of Mundfordsville, was the guest of Mrs. J. L. Richardson, of Beechmont.

Dr. I. N. Bloom, of Louisville, was elected a member of the new School Commission.

Dr. R. B. Cassidy, of Lagrange, has returned from a visit to his son in Gainesville, Texas.

Dr. H. C. Woodard and Mrs. Woodard, of Louisville, spent several days with Dr. D. W. Dudley and Mrs. Dudley in Cincinnati.

Dr. Harry Keller, of Louisville, who was called to McAlisterville, Okla., on account of the death of his mother, has returned.

Dr. W. P. Harvey and Mrs. Harvey, of Louisville, have gone to Chicago and Lake Geneva, Wis., for a short stay.

Dr. William Cheatham, of Louisville, went to Chicago to spend Thanksgiving with his daughter, Mrs. James R. Baker.

Dr. J. T. Bryan and Mrs. Bryan, of Louisville, visited Mr. and Mrs. Oscar Snyder in Shelbyville.

Dr. F. P. Ogden, of Louisville, has returned from a hunting trip in Spencer county.

Dr. George Roberts and family, of Charleston, have moved to Louisville.

Dr. David Healy and Mrs. Healy, of Lexington, have returned home after a visit to Mrs. Healy's mother, Mrs. Alma Bergman, of Auburn Heights.

Dr. T. H. Mulvey, of Louisville, has returned from a trip through the Northwest, including Wisconsin. He attended the Congress of Surgeons of North America at Chicago.

Dr. Raymond Behrle and Mrs. Behrle, of Louisville, have returned from Bowling Green.

Dr. William Howard, of Cloverport, is visiting his daughter, Mrs. Charles Howard, in Ohio Falls.

Dr. Dunning S. Wilson was elected by the Board of Tuberculosis Hospital as Medical Director and Superintendent of the new tuberculosis sanitarium at Waverly Hills. He will succeed Dr. C. M. Forster.

MARRIAGES.

Dr. W. R. Pinnell, of Louisville, to Miss Ethel Alword, also of Louisville, November 9.

DEATHS.

Dr. A. D. Price, died at his home in Harrodsburg, Ky., on November 11.

Dr. Louis Marshall, of Washington, Ky., died in Fort Worth, Texas, from pneumonia.

Dr. W. F. Scott, died in Somerset, Ky., October 26.

Dr. Robert Dunlop, died at his home in Louisville November 9, aged 56 years.

QUEER MISTAKES IN INSURANCE EXAMINATIONS.

If the doctor is to believe all the statements made to him by applicants for life insurance, certain families have been distinguished by their strange happenings. The British Medical Journal selects a few of the most amusing from a large series of blunders:

"Mother died in infancy."

"Father went to bed feeling well, and the next morning woke up dead."

"Grandfather died suddenly at the age of 103. Up to this time he bid fair to reach a ripe old age."

"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."

"Applicant has never been fatally sick."

"Father died suddenly; nothing serious."

Applicant's brother, who was an infant, died when he was a mere child."

"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."

"Applicant's fraternal parents died when he was a child."

"Mother's last illness was caused from chronic rheumatism, but she was cured before death."

Book Reviews.

Obstetrical Nursing for Nurses and Students; By Henry Enos Tuley, A.M., M.D., Professor of Obstetrics, Medical Department University of Louisville; Visiting Obstetrician and Lecturer on Obstetrics to Training School for Nurses. John N. Norton Memorial Infirmary and Louisville City Hospital; Member Sloane Maternity Hospital Alumni; Ex-Secretary and Chairman Section on Diseases of Children, American Medical Association; Secretary Mississippi Valley Medical Association, etc. With seventy-three illustrations. Second edition, revised and rewritten. John P. Morton & Company, Publishers, Louisville, Ky., 1910. Price, \$1.50.

This volume is the revision of a work by the author published eight years ago. Having as a lecturer in several training schools observed the lack of interest pupil nurses manifest in obstetrics, the author states that it has been his endeavor to make the text of this book as attractive as possible. That he has not fallen short of his expressed aim the 246 neatly margined pages attest.

The subject matter is systematically arranged; the anatomy and physiology of the female generative and reproductive organs, embryology, pregnancy, labor, the puerperium and child, are discussed in simple verbiage, clearly and concisely. The many illustrations are clean cut and well selected. The book contains chapters on infant feeding, operative obstetrics, obstetric complications, and advice to expectant mothers and concludes with a glossary of obstetrical terms which additionally commends the work as a practical text-book for nurses in training.

Diagnosis of Syphilis, by George E. Malsbarg, M.D., Professor of Medicine, Cincinnati Polyclinic and Post-Graduate School. Pages 422. Half morocco. Harvey Publishing Company. Price, \$5.00 net.

At this time when world-wide interest is taken in Ehrlich's recent discovery of a wondrous cure for syphilis, when medical men everywhere are eager for personal experience with this much talked of "606," we cannot but feel that its use

will be greatly abused and that, employed in unsuited cases, it will be unfairly criticized, when anticipated cures are not forthcoming. Accuracy in diagnosis is therefore essential to the proper selection of cases for injection and this treatise on "Diagnosis of Syphilis" appears most timely.

While the recognition of the spirochete *pallida* and the elaboration of the serum test clarifies the diagnoses of many obscure cases, the author in this work lays emphasis on the fact that laboratory work supplements rather than supplants the clinical diagnosis.

In this volume consideration is given: first, to laboratory diagnosis, with special stress upon the methods of recognizing the spirochete *pallida*, and the technical and relative value of the Wassermann and other serum tests; second, to hereditary syphilis; third, to the acquired form and its various stages, and fourth, to syphilitic affections of the various organs. There is appended an extensive recent bibliography, covering 117 pages.

The Story of the Bacteria and Their Relation to Health and Disease; Second edition. Revised and enlarged. Pages 232, illustrated. Cloth. Price, 75 cents.

Dust and Its Dangers. Second edition. Pages, 113, illustrated. Cloth. Price, 75 cents. By T. Mitchel Prudden, M.D. G. P. Putnam's Sons, New York and London. The Knickerbocker Press, 1910.

In this age of preventive medicine it is necessary that the general public be instructed in certain matters in order that this modern campaign, to lessen disease, may be effectively waged.

With a knowledge of the contents of these two small volumes the lay public is better fitted to intelligently co-operate. In the first book the author, a student of science, tells of bacteria and their relation to health and disease in language so plain as to be thoroughly appreciated and understood by the unscientific. The second volume, "Dust and Its Dangers," is a plea for clean air and has been written for the purpose of informing the people what the danger is of acquir-

ing disease—especially consumption—by means of dust-laden air and how this danger may be avoided.

These books, while of uniform size and make-up, are each complete in themselves, but to a better understanding should be read by the layman in the order we have mentioned them.

International Clinics, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles; Edited by Henry W. Cattell, A.M., M.D., Vol. iii. Twentieth Series, 1910. Cloth. Pages 311. J. B. Lippincott Company, Publishers, Philadelphia and London.

This, the third volume of the twentieth series, contains the following: A Contribution to the Study of the Ideographic Cerebral Centre, by H. V. Wurdemann; The Radiation of Pain in Renal Calculus, by J. W. Gorham; Ehrlich's Diazo Reaction in Chronic Tuberculosis, by N. P. Levin; The Treatment of Noma and of Pneumonia, by Joseph T. Lopez; Reports on Autoserotherapy, by C. K. Austin; Demonstration of the Use of Unna's Paste in the Treatment of Leg Ulcer, by B. A. Thomas; Treatment of Advanced and Acute Cases of Tuberculosis of the Lungs, by Joseph Walsh; Some Observation on the Salt-free Diet and Chloride Metabolism, by E. H. Goodman; Treatment of Senile Gangrene by Superheated Air, by G. Dieulafoy; Present Status of Bacteria Therapy, by B. A. Thomas; Philosophy of Lanciating Teeth, by Joseph Head; Pyorrhoea Alveolaris: Its Local and Vaccine Treatment, by Arthur H. Merritt; Oral Prophylaxis, by L. W. Johnson; Rupture of Ovarian Cystomata, by C. G. Cumston; Uncinariasis, by M. H. Fussell; Hydrophobia, by M. K. Meyers; Dilation of the Subclavian Artery, by F. G. Wilson, Surgical Treatment of the Pancreatitides, by C. G. Cumston; Treatment of Fracture of the Femur in the New Born, by P. S. Scott; Tuberculosis Abscess of the Hip, by J. L. Porter; Congenital Club Foot, by J. G. Sherrill; Action of Bacteria in the Peritoneal Cavity, by G. P. Müller; Syphilitic Stricture of the Rectum, by Bernard Asman; What Vivisection Has Done for Medicine, by D. M. Hoyt; and other clinical lectures and especially prepared articles.

The Practitioners' Visiting List for 1911. A pocket-sized book containing memoranda and data for physicians. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Lea & Febiger, Publishers, Philadelphia and New York.

The weekly, monthly and 30-patient perpetual contains thirty pages of data and 160 pages of classified blanks, bound in flexible leather, with flap and pocket, pencil with rubber and calender for two years. The text portion of thirty pages contains a scheme of dentition; diagnostic table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration, table of doses; an alphabetical table of diseases and their remedies and directions for ligation of arteries.

ACKNOWLEDGMENTS.

The Practical Medical Series; Volume vii. Pediatrics, edited by Isaac A. Abt, M.D.; Orthopedies, edited by John Ridlon, M.D.; Series 1910. Pages 242, illustrated. The Year Book Publishers, Chicago.

Report of the Commissioner of Health, State of Pennsylvania, U. S. A.—The Third Annual Report, 1908. Pages 1339.

The Physician's Visiting List for 1911. P. Blakiston's Son & Co., Philadelphia.

The Saw and Crushing Instruments in Surgery of the Nasal Septum, by Bryan DeF. Sheedy, M.D. Reprint. Pages, 11.

Vasomotor Nasal Obstruction, by Bryan DeF. Sheedy, M.D. Reprint. Pages, 4.

The Economic Value of Family Physician Refracting, by Leartus Connor, M.D. Reprint. Pages, 9.

A Study of Melting-Point Determinations, by George A. Menge. Washington Government Printing Office, 1910. Pages, 101—iv.

Studies Upon Leprosy, by Donald H. Currie and Harry T. Hollman. Washington Government Printing Office, 1910. Pages 50.

Pennsylvania Health Bulletin—The Conservation of Child Life in Pennsylvania. Pages, 12. Published by State Department of Health.

Mortality Statistics, 1909.—Bureau of the Census, E. Dana Durand, Director 138. Government printing office, 1910.

Diagnosis and Treatment of Diseases of Women, by Harry Sturgeon Crossen, M. D., Professor of Clinical Gynecology, Washington University; Gynecologist to Washington Univ. Hospital and Director of the Gynecological Clinic. Second edition, revised and enlarged, with 744 engravings. Cloth. Pages, 1025. C. V. Mosby Company, Publishers, St. Louis, 1910. Price \$6.00.

The Prevention of Sexual Disease, by Victor G. Veeki, M. D., with introduction by William J. Robinson, M. D. Cloth. Pages, 132. Price, \$1.50. The Critic and Guide Company, Publishers, New York, 1910.

World Corporation, by King C. Gillette. Cloth. Pages 240. The New England News Company, Boston.

The Physicians' Pocket Account Book, by J. J. Taylor, M. D. Leather. Pages, 212. Price, \$1.00. J. J. Taylor, Publisher, 4105 Walnut St., Philadelphia.

The Effects of Restricted Diet and of Various Diets Upon the Resistance of Animals to Certain Poisons; By Reid Hunt. Pages 93. Washington Government Printing Office, 1910.

The Sanitary Privy. Its Purpose and Construction; By Ch. Wardell Stiles, Ph D. Prepared by Direction of the Surgeon-General. Pages 24. Illustrated. Washington Government Printing Office, 1910.

CALENDER OF LOUISVILLE MEDICAL SOCIETIES.

(FOR DECEMBER.)

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton," December 5, 12 and 19.

DR. E. S. ALLEN	President
DR. S. D. WETHERBY	
DR. M. F. COOMES	Vice Presidents
DR. CHIRHAN POPE	Treasurer
DR. DUNNING S. WILSON	Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House December 13 and 27.

DR. J. A. FLEXNER	President
DR. ARGUS D. WILLMOTH	Treasurer
DR. G. B. JENKINS	Vice President
DR. H. J. FARBACH	Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House, December 1.

DR. W. A. BOLLING	President
DR. C. B. SPALDING	Vice President
DR. RICHARD T. YOE	Treasurer
DR. W. O. GREEN	Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club December 15.

DR. L. P. SHEARS	President
DR. GEORGE A. ROBERTSON	Vice President
DR. CHAS. W. HIBBITT	Treasurer
DR. EDWIN T. BRUCE	Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club; December 2, 16 and 30.

DR. J. GARLAND SHERRILL	President
DR. J. ROWAN MORRISON	Vice President
DR. FRANK C. SIMPSON	Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn, December 13.

DR. I. A. ARNOLD	President
DR. H. L. READ	Vice President
DR. JOHN K. FREEMAN	Secretary and Treasurer

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Danville, Ky., January 19, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 8, 1910.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May 10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Lexington, Ky., January 12, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., 1911.

INDEX

TO VOLUME XLIV.

A.

Adenomata, multiple	640
Abdominal surgery, use of oil in.....	375
Abell, Irvin. Galactoceles.....	412
Abortion, treatment of	388
treatment of. Wm. P. Pool.	468
Acidosis. Philip F. Barbour.	393
Aconite poisoning.(Jan.)	608
Adenomata, Multiple	641
Air, superheated, as a therapeutic measure. Irwin Lindenberger. (Jan.)	590
Albumen and sugar, bile test for, in the urine. James W. Guest.	85
Alcohol, the influence of, in certain diseases of the skin.....	155
on trauma influence of. F. S. Dennis.....	365, 424
Allen, E. S. Cardiac arrhythmia	96
Aluminum phosphate, antidote for	265
Alveolar abscess	598
Amebiasis, skin manifestations of.....	638
Anaesthesia in its relation to the general practitioner.....	435
local, in general surgery	151
induction of. J. W. Heim.....(Jan.)	597
spinal	609
warm versus cold. W. A. Onderdonk.	461
Anal canal and its diseases, the. G. S. Hanes.	170
Ano-rectal affections of infancy and childhood.....	539
Arthritis, chronic	209
Asthma and the lung reflexes of Abrams.....	649
Automobile, influence of the use of, upon the upper passages..	537

B.

Barbour, Philip F. Acidosis	393
P. F. Acute bronchitis.....	102
Barks, medicinal	614
Bate, R. Alexander. Sodium benzoate.....	124
Berkeley, Wm. N. Notes on multiple tracings in cardiac disease.	398
Biliary passages, dangers associated with operations of the...	535
Blood coagulation	432
transfusion, therapeutic possibilities of direct.....	484
Book reviews	623, 109, 163, 276, 487, 606, 656
Breast, management of the. C. I. Bacon.	525
Bronchitis, acute. Philip F. Barbour.	102
Bronner, Herbert. Non gonorrheal urethritis.....	289

C.

Calcium sulphide.	(Jan.)	615
Cancer, some facts about. M. L. Ravitch.	(Jan.)	588
of the intestine. J. Garland Sherrill.		88
curability of. J. T. Dunn.		344
Carcinoma of the stomach, early diagnosis of. R. Hayes Davis.		239
Caesarean section, an argument for.	(Jan.)	607
Cholelithiasis, a diagnostic sign of		433
Communications, privileged. Editorial		391
Consent to operate. Editorial		168
Constipation and its management, Lane's conception of chronic		642
Convulsions, treatment of puerperal		323
Cardiac arrhythmia. E. S. Allen.		96
disease, notes on utility of multiple tracings in diagnosis and treatment of. Wm. N. Berkeley.		398
Cragin, Edwin B. Injuries to the puerperal uterus.		129
Criminality, the prophylaxis of. A. L. Parsons.		348
Cry of Cassandra. Editorial		503

D.

Davis, R. Hayes. Early diagnosis of carcinoma of the stomach		239
Deaf mutism, some remarks of		482
Dennis, F. S. Influence of alcoholism on trauma.	365,	421
Dermoid of the corneo-scleral margin. A. O. Pfingst.		418
Diabetes mellitus. B. F. Zimmerman.		178
the urine in		211
in a child. F. M. Gaines.		363
Diachylon ointment. Hebra's.		221
Diagnosis of upper right quadrant disease. Louis Frank.		408
early. J. D. Hamilton.		461
Diarrheas of infancy and childhood. H. L. Read.		447
Digitalls, a shortage in. George L. Servoss.		475
Diphtheria, laryngeal		156
nasal		482
treatment of	(Jan.)	610
Drinking Cup Editorial		227
Dunn, J. T. Hookworm disease.		52
J. T. Curability of cancer		344
Dyspepsia and indigestion, from a surgical standpoint. J. C. Munro		585
Dystocia due to the cord.		321

E.

Editorials. A sane fourth.		279
Consent to operate.		168
Division of fees.		223
Individual drinking cups.		227

New garnishment law.....	226
Medical inspection of school children.....	336
Pellegra and Hookworm disease.....	51
Privileged communications	391
Result of the Fourth of July precautions.....	504
State Tuberculosis Sanatorium	(Jan.) 587
The cry of Cassandra	503
The making of a practitioner.....	335
The new City Hospital.....	167
Ehrlich, Wm. S. Liquid carbonic snow	455
Ehrlich Hata preparation, two cases, treated by the.....	597
Electrotherapy in dermatology. M. L. Ravitch.....	105
Enteric fever, a more liberal diet in.....	377
Erdmann, John F. Intussusception.....	228

F.

....

Fees, division of. Editorial.....	223
division of, committee report on.....	612
Fistula, treatment of rectal.....	543
Fitch, J. W. Tuberculous meningitis	120
Fourth, a sane. Editorial.....	279
of July Precantions, Result of. Editorial.....	504
Fracture of long bones in children.....	266
Frank, Louis. Diagnosis of upper right quadrant disease....	408

G.

Galactocoele. Irvin Abell.....	412
Gall stones and the diseases of the biliary system.....	263
some observations on, with reference to cancer of the gall bladder. Albert Vander Veer.....	136
Garnishment Law Editorial.....	226
Gastric contents, examination of. E. F. Horine.....	510
Gleanings, practical	545, 600, 651
Goiter, diagnosis and treatment. John R. Wathen.....	244
intrathoracic	165
Gonorrhea, serum of. Ernest Koch.....	360
Gossett, Walker B. Version.....	357
Guest, J. W. Bile test for albumen and sugar in the urine..	85

H.

Hall, Gaylord C. Iritis.....	298
Hazes, G. S. Anal canal and its diseases.....	170
Heart, treatment of chronic diseases of.....	(Jan.) 619
Heim, J. W. Induction of ansesthesia.....	(Jan.) 597
Hendon, G. A. Intestinal obstruction.....	506
Hernia after appendicitis.....	435
of fallopian tube.....	597
Hookworm disease. J. T. Dunn.....	52

Horne, E. T. Examination of gastric contents.....	510
Hospital, the new city. Editorial.....	167
Hot baths in the treatment of superficial inflammation	264
Hyperchlorhydria	150
Hypodermic medication, abuse of during operation....	322

I.

Indigestion, diagnosis and treatment of (intestinal protein)....	212
Incontinence following rectal operations	640
Intestinal obstruction. G. A. Hendon.....	506
Intussusception. John Erdmann.....	228
Iritis. Gaylord C. Hall.....	298

J.

Jenkins, Wm. A. Multiple sclerosis.	196
Joint tuberculosis, further observations on the pathology of..	436

K.

Kelly, Harris. Middle ear suppuration.....(Jan.)	594
Kelsall, O. H. Intra-muscular injections of mercury in treatment of syphilis.....	248
Kidney, anchoring	596
errors of diagnosis in surgical lesions of the.....	265
Kidney, adenocarcinoma of the. J. Garland Sherrill.....	615
Knee-joint, surgical conditions of. S. E. McCoy.....	514
Koch, Ernest. Serum therapy of gonorrhea.....	369
Koonz, Fred. L. The time to operate in peritonitis.....	186

L.

La Grippe, acute coryza.....	166
Laparotomy, early rising after	649
Leavell, Hugh N. Osteomyelitis.....	192
Lindenberger, Irwin. Supraheated air as a therapeutic measure	(Jan.) 590
Liquid carbonic snow. Wm. S. Ehrich	455
Lukins, J. B. Cancers of the uterus.....	338

M.

Mammary glands, care of... ..	443
McCoy, S. E. Surgical conditions of the knee joint... ..	514
Medical inspection of school children. Editorial.....	336
Menigitis, tuberculosis. J. W. Fitch, Jr.....	120
Menopausal extract of corpus luteum in disturbances of	(Jan.) 635
Menstrual disorders, neglected principles in the causation of. Emil Novak	628
Metric system, two simple methods of applying the.	157
Moyers, Sidney J. Plea for the obstetrician.....	624

Middle ear suppuration, treatment of. Harris Kelly. . (Jan.)	594
Migraine	152
Mirror surgery, dressing of wounds in.	434
Moro reaction, the.	266
Multiple sclerosis. Wm. A. Jenkins.	196

N.

Nasal hemorrhage tampon for.	376
Neurasthenics, surgery in.	213
Nevus of the anal region. (Jan.)	599
Nihilism, therapeutic, George L. Servoss.	307
Nongushi—Wassermann test in Syphilis	646
Nose, chief function of the. G. A. Robertson.	574
Novak, Emil. Neglected principles in the causation of men strual disorders	628

O.

Obesity	484
Obstetrician, a plea for the. Sidney J. Meyers.	624
Onderdonk, W. A. Anaesthesia, warm versus cold.	461
Opium or morphine disease, the. G. Frank Russell.	147
Orthopedic suggestions	381
Osteomyelitis. Hugh N. Leavell.	192
Ovarian tumor in a child, strangulated.	376

P.

Parsons, Albro L. Prophylaxis of criminality.	348
Pelvic surgery, plastic.	647
Pellegra and hookworm disease. Editorial.	51
Peritonitis, the time to operate. Fred. L. Koontz.	186
Petella, fracture of a.	378
Pfingst, Adolph O. Dermoid of conneo-scleral margin.	418
Pellegra, some remarks on the treatment of	645
Placenta previa	377
Pneumonia, fatal factors in.	322
in the aged, strychnine in.	374
Poliomyelitis is infectious. (Jan.)	610
practical points in the management of.	600
Post-partum hemorrhage, treatment of. Edward Speidel.	232
Post operative treatment. A. D. Willmoth.	559
Practical doubts	326
Practitioner, the making of a. Editorial.	335
Proctoclysis	264
Proctologic literature, a review of. (Jan)	601, 479
Proctology undergraduate.	476
Pruritis from a medical and surgical standpoint. M. L. Ravitch	117
Purge, the preoperative. (Jan.)	615
Pus in the abdominal cavity. John B. Deaver.	311

Q.

Quarantine domestic	534
Quinine, and urea hydrochloride in ano-rectal surgery.	480

R.

Ravitch, M. Electrotherapy in dermatology.....	105
M. L. Pruritis from a medical and surgical standpoint.	118
M. L. Some facts about cancer..... (Jan.)	588
Read, H. L. Diarrheas of infancy and childhood.....	147
Rectum, atony of.....	481
Rectal diseases and those of the female pelvic organs, relation- ship between. J. P. Tuttle.....	255
Rectal hemorrhage, significance of	643
Rectum in intestinal diseases, necessity of examination of	604
villous tumor of the retroperitoneal enlargements....	374
Robertson, G. A. Chief function of the nose.....	571
Russell, G. Frank. Opium or morphine disease.....	147

S.

Salmagundi	438
Serum diagnosis of syphilis, the Noguchi method.	437
Servoss, G. L. A shortage in digitalis.....	457
George L. Therapeutic nihilism.....	307
Sherrill, J. G. Cancer of the intestine.....	88
Adenocarcinoma of the kidney.....	615
Small-pox, prevention and treatment. J. I. Whittenberg.	569
Sodium benzoate R. Alexander Bate.....	124
Spädel, Edward. Treatment of postpartum hemorrhage....	232
Sphincter ani, unique case of laceration of.....	544
Splints, aluminum, in fractures.....	437
State Tuberculosis Sanatorium. Editorial. (Jan.)	587
Stomach, the splashing sound of.....	211
Surgical suggestions 161, 216, 272, 325,	186
mistakes in children.....	536
Syphilis, intra-muscular injections of mercury in. O. H. Kelsall.	218

T.

Tetanus, report of cases	185
Tetanus, chloroform in.....	647
Therapeutic suggestions (Jan.) 621, 162, 215, 273, 324	380
Tubal pregnancy, simulated.....	154
Tubercle bacilli, a new stain for.....	136
Tuberculosis, urogenital, specific remedy in diagnosis and therapy	645
home treatment of. Dunning S. Wilson	282
Tumors, local factors in etiology..... (Jan.)	613

Typhoid fever, affections simulating.....	483
problems	527

U.

Ulcer and cancer	645
Urethral strictures, surgical management of.....	379
Urethritis, non-gonorrheal, Herbert Bronner.....	289
Urethrotomy, external, without a guide.....	533
Uterus, cancers of the. J. B. Lukins.....	338
injuries to the puerperal. Edwin B. Cragin.....	129

V.

Vander Veer, Albert. Some observations on gall stones with reference to cancer of gall bladder.....	136
Varicose ulcers, a useful accessory in treatment of.....	484
Version. Walker B. Gossett.....	357
Vomiting, pernicious, in pregnancy.....	320

W.

Wathen, John R. Diagnosis and treatment of goiter.....	244
Weak feet	536
What every doctor knows.....	274
Whittenberg, J. I. Prevention and treatment of small-pox..	569
Willmoth, A. D. Post operative treatment.....	559
Wilson, Duanning S. The home treatment of tuberculosis....	282

Z.

Zimmerman, B. F. Diabetes mellitus.....	178
---	-----

